MEDICAL VIEWS ON BIRTH CONTROL

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INTRODUCTION

By Sir Thomas Horder, Bart., K.C.V.O., M.D.

To the reiterated suggestion of the Editor of this little book that I should write my views upon birth control I always made the same reply—that, despite considerable time spent in reading the views of others and no less time spent in thinking upon this large and important matter, I found myself still without any opinion sufficiently formulated to serve as a contribution to the literature of the subject.

Having taken up this position, there was clearly no escape from the alternative invitation to introduce to the reader the views of others, especially when these views are expressed by men and women so qualified to speak as are those whom Sir James Marchant has had the insight to select and the good fortune to secure.

If any unbiassed seeker after truth has been led to believe that the question of birth control is quite a simple one, or even to wonder why there should be hesitation on the part

of anyone concerning a reform which promises so much, both for the individual and the race, a perusal of these pages shows that the subject is, indeed, extremely complex, the benefits promised highly problematical and the methods of attaining them by no means certain or practicable.

Careful reflection, and some knowledge of biology, might have led us to anticipate all these things. Nature's first law for all her creatures being self-preservation, even the most unthinking amongst us would scarcely regard a scheme by which we sought to wipe out a large section of any particular generation as being easy of fulfilment. Scarcely less difficult is any device likely to prove which has for its object the deliberate tampering with Nature's second great law of procreation. In her control of these two processes Nature displays a momentum which may well prove to be an effective bar to any great disaster which might conceivably result from our meddling. To say this may savour of begging the question at issue, but such is not really the case. We may succeed in meddling with advantage, even with great advantage—that is the question under examination—it is none the less comforting to reflect that if we meddle with disadvantage the disadvantage is not likely to bring about more than

a temporary and local disturbance in issues which may quite well lie beyond our reach.

I say " local " disturbance because we must not be led by feelings of national, and therefore of merely parochial, importance to conclude that any decline in the birth-rates of European countries, which may have already resulted from birth-control propaganda, has more than the slightest influence upon the human race as a whole. Although statisticians tell us that such a decline is observable, and that it is directly due to the increasing popularity of contraceptives, the case is by no means fully proven : cycles of oscillation in the birth-rate are, as Sir Arthur Newsholme reminds us, quite as likely to be expressions of race physiology : but even if it were fully proven the consideration just mentioned still holds good.

Three groups of people have, so far, written and talked about birth control. There are the advocates of " women's rights," who make the question of birth control a plank in the Feminist movement, demanding for their sisters relief from the hardships of bearing children indiscriminately and from the burden of their upbringing. A second group consists of certain " Labour " or Socialist leaders, who view the known fact of the relatively lower birth-rate amongst the upper and

bourgeois classes as a sort of class privilege and therefore as a matter calling for adjustment. In the third place there are the Sociologists, with whom may be grouped the Eugenists and the Patriots—those who seek to improve the conditions of life, to increase the happiness of the people and to improve the moral and physical status of the race or of the nation.

In so far as the aims of the first two groups are influenced by ulterior motives, their advocacy of the principle of birth control must be viewed with suspicion. It has hitherto been one of the chief difficulties of the student of this subject, who is governed by no adherence to a "movement," that he is met by so many arguments which reveal, sooner or later, the cloven hoof in the form of one or other of the "causes" just mentioned. As Dr. Buist says, the discussion is prone to "become involved in an emotional atmosphere to the prejudice of clear thinking." The claims of the third group demand close and impartial attention. It has been matter for comment that in the ranks of this group medical men and women have hitherto been conspicuous by the paucity of their numbers, notwithstanding the note of distinction given to the subject in this country by a physician of great eminence. That the profession has

in public been so silent on the matter of birth control is due more to an appreciation of the difficulties surrounding it than to indifference to its supposed benefits on the one hand or to defective training on the other hand, though doctors are not infrequently accused of both of these faults.

If this dearth of doctors amongst those who have contributed to the literature of birth control be regarded as a defect, the defect is now in some degree remedied by these essays. Yet if the reader expects a definite pronouncement on the subject from this quarter, some disappointment may possibly be felt at finding that these pages are written more in a spirit of scientific inquiry than to give expression to personal conviction, still less to personal inclination. It is surely just this spirit of scientific inquiry that the subject needs. Exploration of the whole field of facts concerned can be neither too broad nor too deep. Writers who assume as premises for their arguments for or against so important a matter statements which lack evidence and which have never been submitted to the light of investigation, lay a great responsibility upon themselves. Errors committed by such writers must inevitably be paid for, though unfortunately the payment is likely to be made by others rather than by

themselves. Like many other subjects having sociological bearings, the question of birth control is infested by pundits of both sexes. The lucubrations of some of these, far from stimulating people to a serious consideration of the matter, have had to a large extent the effect of rendering the whole question highly nauseous for many thinking persons. There is a literature extant which, dressed though it be in a pseudo-scientific garb, proves more attractive to the prurient-minded than to those whose sympathies it is desired to engage. Needless to say, this has not been the intention, but it has certainly been the result, of the authors' efforts. The hearts of many of the reading public are desperately wicked, and it is no good burking the fact. Less unpleasant, but equally exasperating to the serious student of the subject, are the books which mingle sentiment, not to say sentimentality, with their science and sociology, prefacing their chapters with quotations from poetry of the more maudlin kind. These help no one and do but confuse the issue. "Biggest sellers" are rarely calculated to advance a scientific thesis. At the risk of depressing the publishers of this little book I may add that I fear the converse is very often true. As for wickedness of another and more serious kind, the reader

will find a terrible indictment of birth-control propaganda as it affects the frankly uncontrolled in the essay by Sir John Robertson, whose unique experience and known influence in public health render him an authority not lightly to be set aside.

Passing now, and briefly, to the more practical part of the subject, I am led to remind the reader that Neo-Malthusian methods, far from being confined to personal continence and forbearance, include a number of considerations and devices which will be found set out in detail in these essays. We discuss these things nowadays outside the consulting-room, and with a frankness which would cause a catch in the breath, were it not that modern literature in other spheres prepares even the very young against shocks to their modesty. There appears to be general agreement that such continence during marriage as is demanded by restriction of the number of offspring is not only an achievement very hard to attain, but is often prejudicial both to the health of the parents and to connubial happiness. To carry on such a struggle against nature is therefore not even a virtue and, since the family life is the very mint out of which the child is coined, it is rightly condemned. A principle may be theoretically commendable, yet, if it be impracticable, to preach it

yields but dead sea fruit to the hearer. By "impracticable" is meant impracticable for the average of mankind. To the tense ascetic soul the observance of a strict continence is not only possible, it results in a mental state which is at times akin to ecstasy. This is an exchange which brings the martyr no mean reward for himself and indirectly may be a gain for the race. Such spirits are a law unto themselves. We must needs find a way for those who are made of common clay.

When we come to view the alternative methods of securing that limitation of the family which many think desirable, we seem to be faced with obstacles at every turn. The stratagem which carries Onan's name, besides being quite impossible for many men, is such a gross physical and psychical offence that to continue to consider it at all in this connection seems only to pander to that itch which some writers possess to be thoroughly inclusive in their survey of possibilities. To restrict the sex act to that period in the woman's menstrual cycle when she is least likely to conceive involves the great objections, to which attention is frequently drawn, that this reputed time of low conceptivity is relative only, and therefore cannot be relied upon, and varies much with individuals, and therefore cannot easily be calculated.

There is another objection to this method to which I had seen no reference made until I read these essays: a woman's time of low procreative power by no means always synchronises with her time of high sex desire; to adopt this method is therefore tantamount, in many instances, to the sacrifice of that very spontaneity and wholesomeness in the union of the sexes which it is sought to preserve. As Dr. Buist aptly puts it, "practices founded on this notion may not be in harmony with our present ideas of sexual justice."

All the known and tried ingenuities as between unaided husband and wife proving either unreliable as contraceptives or harmful to health and happiness, the search for methods takes us into the realms of chemistry and mechanics. Chemistry failing us in these same two ways, that is, by being unreliable or by endangering health or happiness, the final resort in our present state of knowledge is the use of mechanical contrivances. Certain physical as well as psychical disadvantages affecting both parties attach to these when applied to the male partner, and so, as the present survival of the fittest in contraceptives, it falls to the woman's lot to make the mechanical adjustment necessary to achieve the object in view—an onus the extent and nature of which seem to be too frequently

minimised. How few women possess the skill, the patience and the finesse necessary to render this adjustment even an approach to efficiency is a question, again, which is, I think, too little considered.

We now arrive at a stage in the practical application of the principle where many people exhibit quite frankly an element of revulsion. They shrink at the implied sacrifice of modesty and at the prostitution of what is certainly, with innumerable lovers, a natural and healthy relation filled with subtle beauty. Many well-mated couples instinctively refuse even to consider such a sacrifice, and who shall say that their instinct is misleading? May not these things (they ask) be made at most matter for the doctor's consulting-room, where also husband and wife may receive guidance separately? Must this relation, full as it is of delicate nuances, be made a prosaic and business-like affair, preceded, accompanied and followed by hazardous contrivances, doubts and fears? The answer given by the advocate of birth control to these questions is that purely personal considerations should not interfere with the pursuit of a principle which involves large social and racial issues. And it is, of course, not inconceivable that the strict pursuit of altruism may require that modesty

and spontaneity shall be sacrificed to utility. We must not, however, lose sight of a possible fallacy here—there is little doubt that in the process of evolution modesty itself is not without its uses. It would seem as though the contraceptive method generally advocated as being the survival of the fittest is either too crude or too uncertain ever to be popular. It is therefore highly probable that if this be the last word in methods the principle of birth-control will remain a principle and not become a practice. But it may not be the last word. Science may pass beyond the mechanical stage and offer us something more subtle and at the same time more effective, something physiological or biochemical. But of this we have at present no knowledge. Operative methods have not so far been seriously considered.

The matter is not settled, as some may think, by private considerations and arrangements which suffice for individual couples who are either within easy reach of medical advice or who find their own adjustments by mutual consent. It is known that birth control in some form or another has been practised amongst the more educated classes for a very long time. The question now at issue is whether the principle should be advocated and taught as part of a sociological programme

—in welfare centres, at special clinics, etc. Individual judgment and responsibility on the one hand, and social propaganda on the other, are very different things. The problem of birth control centres very largely upon the attitude of those whose duty it is to safeguard the health and happiness of the people, be they individuals or corporate bodies or ministries. With the peculiar difficulties of the individual case as presented to the doctor in the course of his routine work the doctor can, and does, deal. Each such case needs consideration on its merits and, as Dr. Arthur Giles makes clear in his essay, though the indications for the practice of individual birth control are quite numerous, they lie well outside the main consideration of the question as it involves the healthy community.

Following Dr. Crichton-Miller in his estimate of the effect upon individual responsibility of popularising birth control, we may well pause and wonder how men and women will react to this new outlook on marital relations. Birth control "has greatly enlarged the possibilities for the unjust steward of his sex-function; it has rendered possible an enrichment of married life; it has both simplified and complicated the problem of parenthood; it makes imperative a higher level of per-

sonal idealism than has hitherto obtained. It has, in fact, rendered both more august and more precarious the 'stewardship of the clean blood of the race.'" No doubt the reactions will be as varied as are the individuals concerned. There will be every transition from the childless families of the selfish to the large families of some of those who still decide to live naturally and take the good the gods give them. It would be a misfortune if the large family entirely ceased to exist; this is not seldom the source whence genius springs, and if not genius, then thrift, patience, discipline, the habit of work, and a spirit of brotherhood: virtues which make valuable contributions to society. Families of one or two—and a meticulous care to limit a family results very often in one or two instead of the proverbial quiver-full—too frequently breed the spoilt child, the neurote, and the man or woman who, though richly endowed both in means and in education, is ofttimes a parasite upon the community.

In the pages which follow there are many points dealt with which at least call for a pause before we should decide to advocate birth control and popularise the principle publicly. There are also many fallacies exposed. If, on a study of all the facts, it be decided that racial hygiene, racial

happiness, racial progress, moral as well as physical, are to be furthered by birth-control propaganda, private inclination must be put aside and we must deal with this problem, as with all other problems, in a spirit calculated to secure that consummation which has been the goal of all philosophers since Society began—the greatest good to the greatest number. Meantime, as Sir Arthur Newsholme points out, we know a line of progress which is certain, and we can continue to follow this pending further consideration being given to birth control, a line which is uncertain. The certain line of progress "consists in an improved environment and a continuance and extension of sanitation and public health and social reforms, which have already had such magnificent triumphs." Doctor Letitia Fairfield, arriving at the same conclusion, expresses her conviction epigrammatically by the remark that "the State and its members are better employed in making the world fit for children, than in keeping children out of the world."

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EDITOR'S NOTE

Each contributor is alone responsible for his or her own contribution.

J. M.

60 *Gower Street, W.C.*
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I

THE PSYCHOLOGICAL ASPECT OF CONTRACEPTION

By H. CRICHTON-MILLER, M.A., M.D.

THE story of mankind is punctuated by crises in the development of public opinion. These are sometimes very devastating, at other times they are of slight significance. When public opinion takes up a question like slavery, war and bloodshed are likely to follow. When the question at issue is merely one of dress or social convention, the implications are less serious. These crises come in the form of questionings: "Hitherto we have always acted thus: has it really been justifiable?" or, "This new fashion is entirely contrary to previous tradition: can we sanction it?"

These crises represent the birth pains in the social psyche. Without them there would be peace—the peace of stagnation, sterility and ultimate death. Man must progress; he cannot stand still, "holding the tradition of the

elders " from generation to generation. What was done in the name of righteousness in one era is condemned as infamous in another. Right and wrong are social formulations, made in the name of a god or of gods, and fallible because of the element of human interpretation (or misinterpretation) inherent in them. New views and new lines of conduct always tend to be "wrong" in that they conflict with established standards. It is difficult for any intelligent reader of to-day to accept seriously the many arguments that were put forward to prove that the abolition of slavery would be " wrong " in God's sight.

We have to face then the inherent difficulty of labelling as " right " that which has previously been labelled as " wrong." In view of this difficulty we are always well advised to attempt a re-orientation by inquiring into the factor of progress in the new proposal. Man is a developing and evolving creature. His progress may be slow, tortuous, even intermittent, but in general it is correct to say of him that he is moving from his simian origin to his divine destiny. Already he has a physical equipment of incomparable adaptability. He transcends immeasurably all other species in his reason and intelligence, and he is unique in his capacity for moral valuation. Thereby he can endow his purpose with an

altruistic value unknown in the rest of the animal kingdom. But man is not yet a god nor even a demi-god. In this slow, groping transition we are at the stage when the make-up of the monkey has not yet been discarded, and at which the divine spirit is painfully restricted and constrained in its function. Man has reached a level at which he has gained an immense control over his circumstances and his material environment. Thereby he is perpetually reducing the number of situations in which he responds instinctively and increasing the list of those in which his conduct is reasoned or deliberate. Similarly the factors which prompt his decisions are increasingly in the remote, rather than in the immediate, future.

Let us now apply these general considerations to man and his sex life. The sex function has two sides to it—the hedonic and the procreative. The survival of every species depends on the hedonic side. Mating is an instinctive response to a biological craving for a specific form of physical gratification. On this craving and on this alone has depended the survival of every species, including mankind, up to the present time. Man has survived for these many centuries primarily because of the sex hunger within him—a hunger that differed in no wise from the brutes'.

It is said that certain backward tribes of Bushmen and South Sea Islanders at this day do not associate sexual intercourse with generation, and are surprised to learn the causal relationship between the two. It is obvious, therefore, that the survival of such lowly communities depends exclusively on the hedonic side of the sex function. But soon this instinctive impulse is reinforced by new factors. Once man has learned the significance of the sexual act, his unique capacity of considering the remote results of his conduct enables him to think of sexual intercourse not merely in terms of immediate gratification, but also in those of remote satisfaction or dissatisfaction and of remote expediency or inexpediency. The man was able to contemplate another possible son to help in hunting or tilling; the woman another possible daughter to share her duties. The woman might contemplate the discomforts, pain or risk of childbirth and the man the difficulties of supporting yet another hungry child. From the individual point of view the survival of the race therefore depended on instinctive desire, enhanced or mitigated in some measure by parental concern. Meantime the primitive community generally stood for the encouragement of fertility. Public opinion favoured large families and the sterile were ridiculed or

pitied. The social group derived its security and advancement from numbers. It is only in an advanced state of evolution that quality becomes more important than quantity, namely, in a state where differentiation is well marked. The community, therefore, tended to impose on those of marriageable age the duty of procreation, and in so doing took little account of personal preferences and sentiment.

As population increased and natural resources were less adequate for its maintenance, an economic situation sometimes arose which conflicted with the phenomenon of rapid increase. The early solution of this problem was infanticide or infant exposure. The modern mind is shocked by the idea of controlling population by infanticide. It is important, therefore, to note that in discarding this solution of the economic problem man makes a forward step in ethical standards. It is easy to understand how spiritual development made mankind set a higher value on infant survival. Indeed, in our own day one of the surest tests of a general advance in public opinion is the increased respect for infant life. Another test for such advance is implied in the sensitiveness to the pleadings of mothers, and we may be sure that the practice of infanticide was abandoned largely at the instigation of mothers.

Under social conditions that militated

against a rapid increase of the population another expedient was abortion. This has no doubt been practised from a very early stage in man's history. It is doubtful, however, if it was ever used on a general scale, as was infanticide. Probably it was resorted to in all times much as it is to-day, only more openly and perhaps more commonly—namely, to solve parental problems rather than the social problem of over-population. As compared with infanticide it has the great merit of not allowing the mother's feelings to be stimulated by a living child. On the other hand, it has the great demerit of being physically dangerous under all but the most advanced conditions. It is therefore no practical solution of the problem.

Next comes the simple expedient of *coïtus interruptus*, or interruption of the sexual act. That this has been practised from the earliest times may be gathered from the 38th chapter of Genesis. The enlightened physician of to-day has ample evidence of the scale on which it is still practised. This method has the merits of requiring no teaching, no interference of a third party, no apparatus. It is a great advance on abortion and a still greater advance on infanticide. Nevertheless, it is medically inadmissible. Modern medicine has established beyond dispute that this practice is

profoundly detrimental, always to the man and frequently to the woman. To understand why this should be so we must recognise the fact that the sexual act comprises a chain of reflexes, and that such a chain can only be interrupted by a very powerful volitional act. In order to realise how disintegrating to the system is the thwarting of a reflex series, it should suffice to consider the effort required and the dissatisfaction engendered by interrupting such acts as vomiting, micturition or even sneezing. In short, *coïtus interruptus* is not an admissible solution of the problem of over-population.

We see then that the limitation of the family can only be achieved by one of two methods—abstinence or contraception. A comparison of these two methods is very difficult, as it implies the personal factor. No doubt there is, and always will be, a certain small minority of couples to whom abstinence is a feasible and simple solution. It may be presumed that this is due to physiological factors, or, in other words, to each of the mates being undersexed. It may be surmised that marriage under these circumstances gives to such a pair all that they desire or can appreciate. The necessity for limiting the family in no way interferes with their fellowship. There is, therefore, nothing to be said to them, but it is of some importance

that such people should avoid generalising from their own experience and inculcating their solution of the problem in others. Much harm is done in every department of human behaviour by the propagandism of those who are immune from temptation. If I happen to dislike alcohol in every shape and form, I should recognise that I am thereby unfitted to preach temperance to the intemperate. If I am temperamentally too cautious to risk my money in betting, I should refrain from taking an active part in an anti-gambling crusade. It is a central truth of the Christian religion that salvation cannot come through the untempted. It is set forth in the New Testament and we get it as the central theme of the Parsifal legend.

Apart from these couples to whom the method of abstinence is so simple, there are those who achieve limitation of the family by self-imposed abstinence, often at a high cost. Heroism and endurance must always command respect even when we consider them uncalled for or mistaken. Therefore we may say to such couples something like this :— " You have faced the inexorable necessity for limiting your family. You consider that sexual abstinence is the only ethical means to that end. You are both normal in your sex feelings. Consequently you admit that

this abstinence demands constant self-restraint of a very wearing description. If you will not reconsider the ethical side of the question, it is your business to avoid mutual stimulation as far as possible. Hence all intimacy, endearments, propinquity and contact must be eschewed. Separate rooms must be used and all conventions observed, practically as if you were brother and sister." For normal couples this is the only rational means of ensuring a life of sexual abstinence. And yet in practice we find that it generally evokes a protest. This fact is very important. It means that the most genuine ascetic values an aspect of conjugal fellowship which is inevitably stimulating and which therefore makes an increased demand on self-restraint. Some may ask, " Why should an individual not be at liberty to expose himself to stimulation if he prefers to do so, provided that he can count on self-mastery? " This is a very important question and it is essential that we should discuss it fully.

Institutionalised religion has largely dealt in categoric imperatives and vetoes. It has enjoined a code of behaviour with much more emphasis on the behaviour than on the means adopted to attain to it. It has also erred in laying down rules for society with insufficient latitude for the individual. The problem of

alcoholism is a good example. When drunkenness persists the community is apt to decide to remove all possibilities of intoxication and then to congratulate itself on the improved standard of sobriety. But such ethics are purely objective and do not take into account the personal attitude towards stimulation and risk. The real problem is an individual one. It involves primarily the drunkard, in that his first business is to eschew opportunity that is likely to lead to failure of inhibition. But the problem also concerns many who never become drunkards but who might do so. Those who constantly expose themselves to stimulation expend much self-restraint in stopping just short of intoxication. Society has nothing to say to them, and in general organised religion says little to them. But the psychologist discovers the extent to which they are expending perfectly good energy in the process of arousing desires which must be inhibited not in the nascent state but when they have attained to full power. The psychologist realises that by the law of conservation of energy there must necessarily be a reduction in the individual's available energy for the main purpose of life. The ethical problem on this psychological basis is not, therefore, the obvious and objective one of keeping sober or becoming intoxicated, but the much more

intricate problem of sound trusteeship for one's available dynamics.

If we return now to the question under discussion, namely, self-imposed abstinence for a couple with normal sex desire, we see that the end in view can only be attained with reasonable economy of energy by raising an artificial barrier of convention to eliminate the constant stimulation resulting from contact or propinquity. Now we must inquire on what grounds do such couples protest against this plan. As has already been pointed out, there is something they value in the contact, endearments and minor sexual intimacies which they allow themselves. This is very important. It shows that the element of sexual passion, albeit consistently thwarted, does something to reinforce love, sentiment and romance. We know that conjugal love is to a considerable extent based upon mutual regard and common interests. True comradeship is impossible apart from the first, without the second it soon weakens. But real marital fellowship demands a deeper element. The two factors necessary for comradeship are inadequate. There must be something which we may describe as conjugal adjustment. To the husband this means possession and mastery in those extraordinarily subtle ways that novelists delight to dwell on. To the wife it

means surrender in a sense as subtle and no less complex. To the man it stands for achievement and consciousness of virility. To the woman it represents a status of uniqueness. To achieve this adjustment there must be a balance of masculinity and feminity in the two. The husband must be more than half a man and the woman must be more than half a woman. The more intensely feminine the woman, the more likely is she to make a satisfactory conjugal adjustment within a fairly wide range of virility in the man. The more intensely virile the husband the less important the exact degree of femininity in the wife. On the other hand, individuals who approximate in their character make-up to the half-and-half line only achieve successful adjustment with a mate who is very exactly balanced to their requirements. Of many tragic marriages that have come under the notice of the present writer, one of the most tragic is that of a strapping man in petticoats to an old woman in trousers. They are both of high intelligence; they share great intellectual interests; they both have high ethical ideals; they both enjoy the respect of many good friends. They were excellent comrades before marriage. Now they are two hideously disillusioned people. He regards his wife with something akin to repulsion because her masculine make-up has failed to stimulate

his passion. She therefore stands to him as the one who has laid bare his virile inadequacy. She regards her husband as a weakling who has failed to give her the privileges of a wife and the status of a mother. He therefore stands to her as the man who has failed to " carry her off her feet," to teach her the joy of surrender—in a word, to possess her.

If, then, we contemplate this complex, but vital, factor of conjugal adjustment, we realise that normal sex relations between husband and wife are not merely the gratification of animal appetite but are—or at any rate should be—a perfectly definite factor contributing to the adjustment on every plane—physical, mental and emotional. It is possible that in a future state of evolution mankind will be able to achieve and maintain the most complete conjugal adjustment on an exclusively spiritual basis. It may even be true that there are couples to-day of whom this is the case. It is certain, however, that for the average couple of to-day normal sexual intercourse plays a valuable and well-nigh indispensable part. It is therefore incorrect to regard sexual intercourse as being only justified by procreative intentions, just as it is incorrect to imagine that self-imposed sex abstinence can be carried on under marital conditions without involving real strain on both parties. In

short, it is an inadequate view to regard sex relations as a means to the end of parenthood. But even more disastrous is the view that parenthood is the usual consequence of sexual intercourse. It is a view which, in days such as these of acute economic pressure, tends to make conception appear as "a piece of bad luck." Parenthood is after all the most important business in life. It is very desirable that it should be undertaken in the best ways, at the best times and in the best spirit possible. Modern contraceptives that are both reliable and innocuous enable a young married couple to contemplate parenthood as such, and isolated from other considerations. It enables them to maintain sex relations without conflict or fear that they will result in economic embarrassment. In other words, the diffusion of knowledge in regard to contraception has—for better or for worse—separated to a large extent the hedonic and the procreative sides of the sex function. Now this separation means for many young people freedom—freedom for sex relations without fear of consequences. It means freedom not only for the married but for the unmarried. Freedom is a word that has been somewhat overworked, particularly by politicians, since 1914. If freedom were in itself an adequate ideal, then the theory and practice of contraception might

be hailed as an unmitigated boon. But freedom is not an ultimate ideal; it is only a condition, and a condition of self-destruction or self-realisation. Thus it is impossible to deny the assertion of many critics that the easy path of contraception makes for much more illicit intercourse than would otherwise take place. This argument against freedom has been used by moralists of all ages, who, as has already been pointed out, interest themselves in objective conduct only, ignoring the great factor of motive. They forget that a morality based on fear has no ethical value for the individual though it may have considerable practical worth for society. The fact remains that with every accession of freedom a higher idealism is called for. The reactionaries and traditionalists of society always seek a fool-proof system of ethics. They would like every murderer to be caught and executed; every thief to be apprehended and sent to gaol; every whisky-and-soda to produce a headache; every sexual act to be followed by pregnancy; every breach of the seventh commandment to be followed by a painful and incapacitating disease. They long for a world in which nature and society conspire to make certain the reward of virtue and the punishment of wrongdoing. But the world, in spite of their wishes and prayers, is moving—drifting, they would call

it—further and further from this state. The structure of society is being altered chiefly because of scientific advance. We have reached a point where it is not even necessary to be able to read to keep oneself informed of what is being said and done in every part of the globe. Further, we have attained a degree of effortless mastery over the physical world in which Nature's retributions lose much of their sting. Everywhere there is more freedom. The leading-strings of society are more and more discarded. The individual finds it easier to destroy himself. But also—and this is the great assurance to which we must cling—the individual has a chance, greater than in any previous age, of rising to the full measure of his potentialities. In short, conduct controlled by necessity and convention is becoming more and more unreliable. Behaviour inspired by personal idealism is becoming the leavening lump on which the future of the race increasingly depends.

This being so, it is useless to ask the question, " Is it not wrong that young people who are unmarried should have easy access to methods of contraception in the absence of which they would have refrained from illicit sex relations? " The knowledge is there, and the business of social reformers is not to try to resist it but to promote a dynamic idealism

which will make the individual a better trustee of all that the sex function stands for. It is useless in these days to count upon the appeal of the past. Right and wrong have lost a great deal of their import. This sounds disastrous and in a sense it is deplorable. But we must face the fact that the constraining force of moral absolutes in the past was largely derived from an archaic presentation of the Eternal as a Jehovah of rewards and punishments. The reactionaries and traditionalists of society had very good reason to prefer the theology of the Old Testament to that of the New.

Hence it follows that much loosening of moral behaviour is directly attributable to the waning belief in hell-fire. It is a poor conception of trusteeship that it should be influenced by the penalty that follows detection. A gospel of trusteeship must be based on the future, and the implications of present conduct for one's own future, the future of others in this generation and the future of the race. If an idealism of this sort once grips a youth he will see that strict monogamy is the only possible path to the fullest sort of life. He will realise that all ante-nuptial and extra-nuptial sex relations inevitably tend to impoverish his future, his mate's, and those of other women involved. He will realise that

the risk of venereal disease is the most obvious, but by no means the only, possibility of such impoverishment. He will realise that on the mere hedonic side the factor of uniqueness is its own reward—or perhaps he won't realise it until it is too late to undo the past. He may realise that the psychology of the woman stresses immensely the idea of exclusive ownership, and that much impoverishment of marital relations is likely, if not certain, to result from promiscuity in the past or infidelity during marriage. He may realise, too, that the richest possibilities of parenthood are reserved for those who have the fewest regrets and who are not obliged to enjoin on their children self-restraint which they failed to exercise in their youth.

But the gospel of trusteeship applies even more to procreation. We recognise to-day that each one of us can transmit the unit characteristics belonging to our stock. Fortunately for some of us we cannot transmit acquired characteristics. Fortunately for some of our children they may inherit characteristics pertaining to our stock, but not manifested in ourselves. This being so, a couple have to consider very seriously whether their combined stock promises an above-par child, and whether their economic prospects are compatible with a reasonable upbringing

for the child. In this connection it should be noted that the present situation is one in which we are breeding largely from the below-par section of the nation, while we do a great deal by free education and otherwise to raise the level of the child material available. Contraception has so far enabled the rich, the educated and the well-housed to hand over the balance of procreation to the poor, the ill-educated and the ill-housed. This can only be a disservice to posterity. Efforts now being made to render available to the latter classes contraceptive methods should—from a eugenic point of view—be balanced by an active promotion of the ideal of parenthood among the above-par section. Education, free meals, state-provided houses—none of these methods will turn a C3 population into an A1 population. There is only one positive way of improving any herd, and that is to breed less from the below-par section and more from the above-par section.

We see then that contraception has two chief implications: (*a*) the disjunction between sex relations and parenthood, (*b*) the freedom which demands a stronger personal idealism. But here we have to note a very vital connection between sexual intercourse and parenthood. In referring to the marital adjustment it was suggested that sex relations

played, or ought to play, a definite part. It is obvious that the part thus played is bound to be of decreasing importance. Nothing can eliminate the parental urge, however slight and even unrecognised it may be in early life. It is when sex relations no longer provide the strong bond of early married life that the longing for children becomes insistent, and when that longing is unsatisfied mutual recriminations, feelings of injustice, self-reproaches are all likely to occur. The two following examples illustrate this point :—

(1) Captain Jones proposed to Miss Smith. She accepted him, but her father took Captain Jones to his room and told him that the Smith family was sadly afflicted by epilepsy, that Miss Smith had suffered from serious convulsions in childhood, and that two eminent specialists had warned them that she must never have a child, and that for two reasons—the fear of eclampsia and the danger of having an epileptic child. Captain Jones, being deeply in love and thoroughly chivalrous, of course assured Mr. Smith that this made no difference to him; that he loved Helen far too much to be influenced by any such limitation, that in any case he had not much use for babies, and besides, as his salary was only £800 a year, it was just as well. They married and lived happily a life of conjugal felicity

and social excitement. Gradually the social excitement became more imperative and their interests seemed to diverge more. After twelve years there came to live near a widow called Mrs. Robinson who had three adorable children. Captain Jones had to admit that these were the first children who had made an appeal to him. He got into the way of going round to help Peter with his Meccano and to give Olive a box of toffee. Two years later Mrs. Jones received a note from her husband which ran as follows :—

"DEAR HELEN,

"I have decided that we can never hope to be really happy together. Eileen Robinson and I have agreed to share our fortunes in the future. If you communicate with my solicitors . . ."

Now the little Robinsons have two little brothers called Jones, and their father is said to be ridiculously infatuated by them. That latent paternal urge can change the most chivalrous lover into the cruellest betrayer.

(2) Major Reid took his charming bride to India. Mrs. Reid loved the gay and easy life. They decided that it would be time enough to have children when they settled down in England. How could she face six months with no tennis or dancing or riding ?—it really would

be the limit. In justice to the Major it must be stated that he only acquiesced because Mrs. Reid seemed so clear on the point. "And after all it's her business, not mine." Seven years later they came to England. To their disappointment conception never occurred. Various treatments and the usual minor operations were undergone. Mrs. Reid was dreadfully distressed; she became sleepless and began by taking a nightcap for her insomnia. Then she took whisky as a pick-me-up. Then she started to take veronal. That was in 1914. She was clearly suffering from acute emotional conflict, and on investigation this proved to be remorse that by her own doing she had missed motherhood and there was nothing she wanted more in the world. In 1915 her husband was killed. Since 1916 she has been in an asylum. Contraception had given her the freedom to subordinate her maternal urge to social pleasures, and she had used the freedom for self-destruction.

There can be no question that this generation will have an appreciable proportion of old people who are completely dissatisfied with life and unadjusted to old age because they have deliberately chosen to be childless. The parental urge can, with many, be replaced easily enough; but only in youth. In most people it refuses to be repressed later, and it is

too potent a biological force to be lightly thwarted.

The ideal conjugal adjustment demands bonds that outlive middle life; that are rooted in a mutual act of creation; that are able to supply the elements of youth, growth and hope when these elements have passed out of the parents' own lives. The knowledge of contraceptive methods does, in a sense, make the issue simpler. As has been pointed out, it isolates, in a way, the parental urge and the parental challenge. But by this very process it opens the way for other complications. Let us take as an example the mother of two children who urgently longs for more. Let us suppose that prudential considerations bias the husband against a third child. Where contraceptive methods are unknown it is likely that the husband's sex appetite will overcome his logical caution and that the mother will have her way. It may be that sex relations are a matter of some disinclination to her. She willingly accepts this as a small part of the price asked for a great boon. But if contraceptives are available the husband has it both ways. He denies himself nothing; he demands a price of his wife, and she gets nothing in return.

Or let us take the reverse situation. A man falls in love with a gay society butterfly a good deal younger than himself. He is pas-

sionately anxious to have children. His bride begins by stipulating a moratorium. This he grants and contraception is resorted to. The wife in this case is too selfish to face pregnancy and labour, and finally, after repeated pleadings from her husband, she proposes that it would be much simpler to adopt children. The husband is broken-hearted. It was children of his own and her own that he had wanted. Why had she not told him this before they married? To him sex relations are henceforward a mockery and the love he once felt for his wife would turn to hate were he not of such a generous type. In this case, as in the previous one, it is the knowledge of contraceptive methods that has introduced a disastrous complication where it would not otherwise have arisen.

To sum up, then; contraception has altered our outlook on marital relations; it has greatly enlarged the possibilities for the unjust steward of his sex function; it has rendered possible an enrichment of married life; it has both simplified and complicated the problem of parenthood; it makes imperative a higher level of personal idealism than has hitherto obtained. It has, in fact, rendered both more august and more precarious the "stewardship of the clean blood of the race." [1]

[1] C. E. Montague: *The Right Place.*

II

FERTILITY AND ITS CONTROL

By LEONARD HILL, M.B., F.R.S.

A CONSIDERABLE reduction of infant mortality has occurred in the last decade or two, probably largely through reduction of birth-rate and partly through infant welfare work, and the education of the mother in simple methods of securing clean milk, fresh air and light, and through the introduction of dried milk, which allows a clean food to be prepared each time it is wanted in tenement dwellings where the keeping sweet of milk, even if delivered fairly clean to the householder, is almost impossible owing to warmth, dust and flies. It has been acclaimed in the daily Press that the reduction of infant mortality produces a great increase in the number of infants, but this is not the case, for although the infant mortality may be halved, it must be borne in mind that the mortality is per 1000, and a reduction from 100 to 50 will only be one of 5 per cent., a quite small saving compared with the drop in fertility, which has been nearly halved since 1871.

For the maintenance of a stationary population of 36,000,000, as in 1911, Dr. John Brownlee reckoned the necessary number of births to be 675,000, this calculation being based upon an infant mortality rate of 120 per 1000, at which point it stood roughly in

TABLE SHOWING THE ACTUAL POPULATION IN 1911 AND THE CORRESPONDING NUMBER IN A STATIONARY POPULATION WITH THE SAME HEALTH CONDITIONS, IN THOUSANDS

Age.	Males.		Females.	
	Actual.	Calculated.	Actual.	Calculated.
0–10	3783	2837	3768	2896
10–20	3403	2724	3434	2784
20–30	2958	2637	3296	2705
30–40	2637	2511	2853	2595
40–50	2001	2314	2157	2428
50–60	1376	1990	1505	2162
60–70	843	1466	984	1711
70–80	364	764	499	1010
80–90	75	189	120	305
90–	4·3	13·2	9·1	29·4

If it be supposed the infant mortality rate is halved and falls to 60 per 1000, the number of births required to keep up the same stationary population will only fall to 632,000. The saving of infant mortality makes, then, only a small difference. "A

[1] Brownlee, *Lancet*, November 1, 1924.

stationary population," says Brownlee, "is defined as one in which the hygienic conditions and the fertility are such that the number of births is equal to the number of deaths in each year, which also implies that an equal number of persons advance into each age-period at successive equal intervals of time. These relationships of the number living at different ages in a constant population constitute the essential data of what is known as a life-table." A comparison between the actual and the life-table populations for the years 1910–12 is given in the table constructed by Brownlee. "In the first column is given the population as enumerated; in the second column the numbers of the stationary population at each age period, these being the number who would be found living if the births equalled the deaths." It will be seen that above the age of sixty-five years the life-table populations are double the number of the census populations, while the number living under fifteen years is about 22 per cent. less. The expenditure on old age pensions will thus double itself for a time if the population become stationary, while more work will have to be done by the younger and vigorous people, or more efficient machinery invented to maintain the same standard of life. Dr. Brownlee has calculated that the excess of the births beyond

that required in a stationary population of 36,000,000 is now approximately less than 50,000 a year, so near, then, are we approaching to this condition.

The number of registered marriages and births in England and Wales has been, in thousands—

Year.	Marriages.	Births.
1913	287	882
1914	294	880
1915	301	815
1916	280	786
1918	287	663
1919	369	692
1920	380	958
1921	320	847
1922	299	780
1923	292	758
1924	296	729

Brownlee says that the rate of fertility in 1923 to that in 1871 is 0·55. To change in the age of marriage he ascribes only 3 per cent. of the fall in fertility.

The loss of fertility is due to race physiology, part of which is the refusal to accept responsibility of children and consequent use of all kinds of contraceptive methods. It must be borne in mind by those that use contraceptives, that there is evidence that when a young married couple for reasons of economy, or to postpone responsibility for some years, avoid having children by the use of these methods,

the capacity to procreate often becomes lost. There is then great risk in postponing the first pregnancy for those who wish to have children eventually. Moreover, if family life is to exist with all the best educative and vigour-enhancing effects, there should not be much difference between the ages of the children; they should tumble up together and harden each other. An only child is admittedly spoilt, with much greater tendency to weakness of body and character. Brownlee cites Group Captain Martin Flack, who told him that the only child is rarely found to be of use for flying.

The best race is produced by the survival of the fittest out of large families exposed to a hard but natural outdoor struggle for existence, such as the British has been up to the time when modern industrialism altered things.

While Britain must tend towards a stationary or, if her manufacturing resources fall off, towards a decreasing population, there are vast areas in the empire which await a population, and since so excellent a colonising population has been bred in the past, such should continue to be the product of Britain.

The future of the British race depends on the birth-rate problem, and this is far more important than the Great War or any other

problem which has, or does, face the politician. It is bound up with housing conditions, and with the nature of the city diet, with the system of education, confined life and want of playing fields, with smoke pollution of the atmosphere, and loss of ultra-violet rays of the sun, etc. The slum housing is and continues to remain a shocking disgrace; no less so the smoke pollution of the air. At the end of the Great War the national factories might have been turned into National Housing Factories and the citizen soldiers, with no employment at their demobilisation, turned over to house and garden city building; but no politician with sufficient breadth of view arose to tell the nation that it lost more by preventable sickness and ill health each year than by each year of the Great War, and of the means available for stopping this. Slums, greed of the building trade, unemployment and the dole persisted in consequence.

As Dr. Louis Berlin points out, the Neo-Malthusians seek to spread the use of contraceptives because they see the ill effects and misery arising from large families bred in the deplorable conditions of one-, two- or three-room tenements in the slum quarters of cities. They should rather give their energies to the improvement of housing, the building of garden cities, the more equable distribution of

wealth, the getting rid of smoke pollution of the atmosphere, the perfection of methods of locomotion between dwellings and places of work or business, and in the education of children in open-air life and farm pursuits, so as to suit them in bodily strength and temperament for agriculture and colonial up-country life.

In U.S.A., now that the rate of immigration, and with it the greater breeding power of fresh immigrants, has been curbed, the population is rapidly approaching the stationary. Of native Americans, as one in six marriages proves sterile or results in no surviving children, it follows, that to maintain a stationary population, an average of over three children per marriage is required. The educated and well-to-do classes both in Britain and U.S.A., those with the best brains, the more energetic and adventurous, are failing to maintain their number. Empires in the history of the world wax and wane. In ancient Greece and Rome the power to breed fell away and the old race almost died out and was replaced by aliens. The Emperor Augustus offered great privileges to parents of large families, but without avail. Lack of fertility, apart from contraceptive methods, among many people is shown by the desire for adoption; and infertility and adoption

occurred in ancient Greece and Rome as in the most highly civilised races of to-day. The city life with its crowding, stagnant air, want of sunshine and open-air exercise, nervously exhausting life, deforcement from ample supply of fresh young green foods, leads to infertility. We know that inflammatory diseases such as gonorrhœal epididymitis or salpingitis and the orchitis of mumps may cause sterility. Over-function may have this effect on males, or lowering of health by some form of toxæmia.

Poorly fed agricultural labourers are most fertile; the voluptuous, idle, effeminate, and luxurious are less fertile. Darwin mentioned that 19 per cent. of the English nobility were childless, a figure more than three times the average for the rest of the nation, and, as C. E. Pell justly points out, peers are well to do and want heirs, and therefore have small incentive to use contraceptives as far as the getting of an heir goes. Peeresses may wish to limit their families to small size so as to escape interruption of the round of society pleasures, but the desire for an heir would rule paramount even over them.

Whetham found that in 1909, among the men of specialised ability at Cambridge, there were forty childless couples, and seventy others, whose youngest child was over ten,

numbered 199 children, giving 1·81 children per family. These people were then quite unable to maintain their share of a stationary population. Sterility and low fertility go together. Pell says that among groups of English intellectuals the proportion of childless marriages normally works out at about 25 to 33 per cent. Among twenty-eight of the leading members of the Eugenics Society, 25 per cent. were childless, and there were 2·33 children per family; of forty-one members of the National Birth-rate Commission he found 39 per cent. were childless and there were 1·75 children per family.

There are some 20–25 per cent. of sterile marriages in France, and 25 per cent. in certain better-to-do classes in U.S.A. On the other hand, sterility is rare among such people as the French Canadian peasants and the native Philippines.

Pell cites the relative birth-rates of legitimate children per 1000 of the population as given by Bertillon :

	Paris.	Berlin.
Very poor quarters	143	204
Poor	128	198
Comfortable	109	192
Very comfortable	96	172
Rich	94	145
Very rich	85	101

The French Canadian peasants are simple, hard-working people, farming a fertile land which the snow covers for five months of the year, living on the produce of the soil, and having abundant fresh food, open-air exercise and sunshine. Being Roman Catholics, and finding their children a source of wealth as farm hands, they do nothing to limit their families. The women engaging in farm work, like all peasants and wild races of men, are fertile and have very easy lying-in times, quickly being up and about after the birth of a baby. An Australian black woman will turn aside from the travelling tribe, have her baby, and then follow after and catch up her fellows, as easily as a wild animal. Similarly peasant women working on the fields in East Prussia have been known to return to work within a few hours of a birth, so hard and robust are their bodies and different their temperaments from the soft nervous women of modern cities.

The French Canadians have an average of about ten children per family. Modern citizens could not get such families even if they tried, not if every form of contraceptive device were abolished. As Dr. Brownlee points out, loss of fertility is a matter of race physiology, due to racial degeneracy; a part of this degeneracy is the refusal to accept the responsibility of having children, and the use of

contraceptives. In the pioneering days, in Australia, New Zealand and America, the people were fertile. Now with advancing civilisation they are becoming less and less fertile. Pell quotes Dean Inge as saying that an inquiry showed that of women educated at Oxford and Cambridge, those who got a third class in the final schools were found to be more fertile than those who got a second class, and these more fertile than those who got a first class. The ones who got a first class in mathematics were barren. On the other hand, J. W. Brown, M. Greenwood and F. Wood conclude that there is no essential difference between the fertilities of women of the same class who have or have not received a University education. In the case of the highly-bred and highly-strung race-horse, Darwin says not far from one-third of the mares fail to produce living offspring.

Pell, arguing against ascribing the fall in birth-rate to the use of contraceptives, has put forward the fact that an inquiry carried out by Mr. Sidney Webb among members of the Fabian Society showed that of 316 marriages, 242 were limited and 74 unlimited. The former had an average of 2·7 and the latter 2·9 children per marriage. A similar inquiry by the National Birth-rate Commission gave 287 limited families with an average of 2·4

children per marriage and 188 unlimited with 1·8 children per marriage. Lady Willoughby de Broke, in a third inquiry, collected replies giving 94 limited with 3·1 children per marriage and 19 unlimited with 2·5 children per marriage. It may be that in these inquiries the parents of unlimited large families do not care to reply as readily as those with small families; limitation also may be more in vogue with the more fertile; error too may arise from interpretation of the word limitation; but the results point to the conclusion that the fertility of many unlimited families of intellectual people is very low. Pell cites information gathered in 1890 by the French Ministry, which indicated that there were then in France 2 million married people with no children, 2·5 million with one child, 2·3 million with two children, 1·5 million with three children and 1 million with more than three children. Contrast these conditions with the French Canadians, who have an average of about ten per family. Pell argues that a high birth- and death-rate go together and that poverty and hard labour lead to fertility. A. B. Hill, utilising the vital statistics of England and Wales and Sweden, has not confirmed the first contention.[1] The second may be due

[1] A. B. Hill, *Annals of Eugenics*, Vol. I. Parts I. and II., 1925.

to the robustness of body given by open-air exercise and exposure to sunshine, and to the large proportion of fresh vegetable food in the diet containing the vitamins necessary for fertility and the successful birth of healthy babies.

Physiological evidence has been collected in recent years which shows the very great importance of vitamins for breeding. It has been known that in the case of bees, the larvæ are fed for three days on the same milk-like bread food, and that then the worker bees are put on a plainer diet of honey and pollen and, losing fertility, become smaller and energetic, while those destined to be queens continue to be fed on the bread food and become large, slow and fertile.

The writer in 1912 found that rats and mice, when fed on white bread and water, became ill nourished, unfertile and died, while those fed on a bread which is enriched with the germ of wheat, lived and bred to the third generation.

McCarrison has pointed out that a diet deficient in vitamin B, in addition to producing beri-beri-like symptoms, leads to degeneration of the sexual organs and infertility. So, too, the absence of fat soluble vitamin A from the diet makes it impossible for young animals to grow up and breed.

Animals kept confined in stables in most

cases lose fertility. Mares often have to be put out to grass for some time in order to become fertile. Mares used for racing for ten or twelve years are very difficult to breed from, while mares frequently bred from during the earlier years may continue to breed up to twenty years. Fat mares are seldom good breeders. They should be in moderate condition and given plenty of active exercise before being put to the stallion. Nervous, vicious mares are said to be bad breeders. Breeders complain that young bulls kept in byres for safety sake often go infertile when two to three years old. High condition is said by breeders to be inimical to conception. Thus sows, when in poor condition just after the weaning of a litter, are put to the boar most successfully. One breeder, who succeeded in getting pigs in prime condition for prize-winning at shows and yet breeding from them successfully, stated that he added the whole of the household urine to the pig feed and ascribed his success to that. This suggests that certain salts, such as phosphates, were deficient in the diet and were made sufficient by the addition of urine. Mountain-fed sheep generally have but one lamb; when brought to lowland pastures twins are commonly born, a result probably to be ascribed to the greater richness of the lowland grass in

vitamins, etc. Highly-bred rabbits, *e.g.* the long-eared ones, are said to be relatively less fertile; so too highly-bred cats and dogs. High feeding and lack of exercise are likely to produce sterility in these. Elephants and parrots in captivity are very infertile, and all caged birds are relatively infertile. Lions in menageries are more fertile than those shut up at Zoos. The lions at the London Zoo after access to open-air exercise grounds have improved in fertility.

It is noteworthy that the modern citizen is very largely removed from access to green food. Such vegetable food out of his garden is a most economical source offered to the farm labourer, but is costly in cities and rarely eaten by most citizens.

The consumption of white flour, sugar, meat and butter or margarine has gone up concomitantly with the diminished fertility. The germ and outer layers of wheat and green food are great sources of vitamins and salt. White bread, polished rice, sugar, sweets and sweet white flour cakes, nut butter margarine, are vitaminless foods, and the very substantial increase of these in the citizens' diet may have something to do with their infertility. The condition of the bowels is upset by want of exercise, stagnant air and want of sun, so that absorption and utilisation of any scarce necessary food principles are lessened.

Infertility may arise, too, from conditions of the uterus. The spermatozoon has a difficult passage, comparable to a lad in a small boat setting off for America. The five hundred or so million provided in the semen are a provision against the colossal losses on the journey of the spermatozoa up the neck of the uterus to the place where it meets the ovum. Differences in the muscular tone of the uterus and in the humours secreted by the uterus may facilitate or stop fertilisation. Pell cites an Arab custom of riding a mare to exhaustion before putting her to service. The deep breathing of the panting mare, and the condition of the uterus may then favour the passage of the spermatozoa.

He quotes the following from Buchan's *Domestic Medicine*, 1813 :—" The inhabitants of every country are prolific in proportion to their poverty; and it would be an easy matter to adduce many instances of women who, by being reduced to living entirely upon milk and vegetable diet, have conceived and brought forth children, though they never had any before.

" Affluence begets indolence, which not only vitiates the humours but induces a general relaxation of the solids, a state highly unfavourable to procreation. To remove this we recommend, first sufficient exercise in the open air; secondly, a diet consisting chiefly of milk

and vegetables; thirdly, the use of astringent medicines or Spa water; lastly, above all, the cold bath."

It is well known that in cases of undescended testes, that is, where the testes remain in the abdomen and do not come down into the scrotum, infertility is the rule. The seminiferous tubules in such testes are found to be degenerate. It has been experimentally found that the putting back of the testicles into the abdomen in dogs and in guinea-pigs causes them to degenerate and the animals to become unfertile, although every care is taken to ensure their blood supply. The testes if returned to the scrotum, after not too prolonged a stay in the abdomen, recover.[1] Prolonged warming of the testes in a bath a little above body temperature causes the same kind of degeneration and sterility. Thus, exposure for nine hours a day in an air bath at 41° C. had this effect on rabbits.[2] High temperatures exert their deleterious effect very much quicker than temperatures only a little above body temperature, which is 38–39° C. in a rabbit. It is possible that the seminiferous tubules require exposure to cool conditions as well as warm, and that monotonous warm atmosphere and over-clothing lead to lessened fertility, while open air, exposure to wind, bathing in

[1] Moore and Quick, *Amer. Journ. Anat.*, 1924, **34**, 269.
[2] Fulsuli, *Japan Med. World*, February 15, 1923.

cold water have an invigorating effect not only generally but on the testes in particular.

Turning again to the effect of diet, there is much evidence to show that infertility results from too restricted a diet and want of vitamins.

We know that rickets is produced by a diet deficient in bone-building salts and in the anti-rachitic substance (vitamin D). It has been shown that this substance helps the absorption from the alimentary canal and utilisation of the bone-building salts.

It has been proved on animals such as puppies, piglings and young rats, and on children, that rickets produced by a deficient diet may be prevented: (1) by giving an adequate salt mixture, (2) by addition of cod-liver oil, which is rich in vitamin D, (3) by irradiation with ultra-violet rays a few minutes a day.

It has been shown further that vitamin D is produced in oils and other foods which do not contain it by such irradiation, and that a certain complex organic substance called cholesterol present in animal cells, or phytosterol present in vegetable cells, can be activated by irradiation, so that in minute doses it acts as vitamin D. In fact, vitamin D seems to be a sterol activated by irradiation with ultra-violet rays. It is not possible to isolate the activated part from the rest, and the activation is very easily destroyed by over-irradia-

tion. It may be provisionally assumed that the high energy of the ultra-violet rays alters the atomic structure of the sterol and so gives the vitamin property. It has been found that the restriction of calcium intake diminishes both the number of eggs laid by fowls and their capacity to hatch.[1] Moreover, it has been shown that the egg-laying power, the thickness of the egg-shell, and the successful hatching out of the eggs on incubation is greatly increased by addition of cod-liver oil to the food, or by a daily irradiation of the hens with an arc lamp for a few minutes a day.[2] The developing embryos taken from the eggs of the irradiated hens after twenty-one days' incubation contained nearly twice as much lime as the embryos from non-irradiated hens' eggs. The antirachitic power of the egg-yolk from the irradiated hens' eggs was about ten times greater than that from non-irradiated hens. The capacity for fertilisation of the eggs was equal in those laid by irradiated and non-irradiated hens, but three times as many eggs were laid in the months of the experiment, February, March and April, and the capacity to hatch out of the chicks from their incubated eggs was very much greater in the case of the irradiated hens; it results that the breeding power was put up enormously. In

[1] Buckner, etc., *Journ. Physiol.*, 1925, **71**, 543.

[2] Hart, Steenbock, etc., *Journ. Biol. Chem.*, 1925, **65**, 379.

these experiments, carried out at Wisconsin University, the hens were kept under glass in an attic, so that the control hens got little or no ultra-violet rays from the sun of biological activity, these being screened off by ordinary window glass. They were fed on a very ample and varied diet, but containing no green food, viz. :

20 parts yellow corn,
10 ,, wheat bran,
10 ,, wheat middlings,
10 ,, gluten food,
5 ,, ground oats,
5 ,, oil meal,
10 ,, beef scraps,
3 ,, pearl grits (calcium carbonate),
0·5 ,, common salt,
fed as mash.

Skimmed milk *ad lib.*

Oyster-shell and germinated oats.

Scratch mixture, two-thirds whole yellow corn, one-third whole wheat, about 50 per cent. of their dry food coming from this.

Groups of twelve White Leghorn hens were selected as uniformly as possible for their laying and breeding powers.[1]

[1] In a similar experiment on fowls given access to green food and to open air and light in the winter months, ultra violet rays had no influence on the egg-laying power (Webster and Hill).

Mr. A. Webster and the writer have brought up rats on a diet made up in the laboratory from relatively pure protein (casein) carbohydrate and fat, with addition of an appropriate salt mixture, and enough vitamins for growth and health, namely, A, B, and C vitamins, afforded by adding cod-liver oil, yeast and lemon-juice. These rats have been bedded on hay, from which they may obtain a very small supply of grass seeds. They proved capable of breeding, but were much less fertile than other rats fed on a far more natural diet consisting of wheat, barley, oats and green food. Rats brought up on an ordinary canteen diet consisting of varied cooked meats, potatoes, greens, white bread and varied puddings were as fertile as those fed on the " wild " diet of whole grain and raw green food. Rats brought up on a canteen tea diet, consisting of bread and margarine, biscuits, rock cake and tea with milk, were healthy-looking and bred, but the mothers ate their young after birth and almost wholly failed to bring them up. H. M. Evans, of the University of California, finds that female rats put on the above-mentioned sort of synthetic diet with no hay for bedding, can be fertilised, but cannot give birth to young, these dying in the womb and being resorbed, although the rats showed good growth and health.

He cures the sterility of these rats by the addition of a single natural food or extract of this containing the required vitamin. In the male he finds destruction of the sperm-producing cells brought about by the same synthetic diet. In the female, the ovary and ovulation remain unimpaired, but death and resorption of the developing young occurs. Other dietary deficiencies may prevent ovulation, fertilisation or implantation of the embryo in the uterus, but the particular deficiency studied by this author results in death and resorption of the fertilised and implanted embryo on the 12–20th day after fertilisation. A vitamin called E appears to be required to prevent this effect. It is found richly in the young green leaf, lettuce, etc., and in the germ of wheat. One drop a day, fed to each rat, of an oily ether extract of lettuce or of wheat germ will cure this form of sterility. Some vitamin E is found present in meat, but is very little in the viscera, such as the liver and in cod-liver oil, and milk, which are rich both in vitamin A and the antirachitic vitamin D. Rats fed on a diet rich in vitamin E remain capable of breeding for three to four months after being put on the "synthetic" diet. The mother well fed can hand on a supply of vitamin E to her children, as is shown by the fact that if these are killed and fed to female

rats which are living on the " synthetic " diet, the breeding of the latter is kept up. Excess of vitamin E in the diet does not increase normal fertility, or have any effect on the weight of the young.

A deficiency of vitamin B likewise causes loss of fertility in male rats, and before complete sterility comes on the proportion of males falls off in the litters bred from these males.[1]

Physiological inquiry has then gone far enough to show the paramount importance of the mother securing natural foods rich in all the necessary vitamins, above all milk, fresh young green food, whole-meal flour containing the wheat germ, eggs, liver, roe of fish, and cod-liver oil, and of her exposing her skin to sunshine or the ultra-violet rays from an arc occasionally, and taking open-air exercise.

As far as the use of contraceptives go, which must be a most important factor in reducing fertility, it is useless to tell people to produce children so long as they are penalised thereby in the struggle for existence. If the necessary good housing and playgrounds and economic guarantees could be given there would be little fear of the population being kept down below national requirements by the use of contraceptives.

[1] Parkes and Drummond, *Proc. Roy. Soc.*, 1925, **98B**, 147.

III

THE MEDICAL ASPECT OF CONCEPTION CONTROL

By Dame Mary Scharlieb, D.B.E., M.D., M.S.

It is surely a mistake to speak of the pros and cons of "*Birth Control.*" The words "Birth Control," taken in their simple, obvious meaning, denote an intention to prevent the living birth of a live child. For such a proceeding there are no *pros* in the mind of any decent individual. The destruction of a child at birth, whether it be mature or not, is easily recognised as manslaughter or even as murder, and the terms *infanticide* and *criminal abortion* indicate that these acts, which are held in abhorrence by all right-minded persons, are also crimes in the eyes of the law.

What is usually meant by the words "Birth Control" is some artificial method not of killing a living being, but of preventing life from commencing. This is an altogether different proposition, and although many of us consider it a misdeed and see plenty of reasons against it, the case for and against Conception Control is at least arguable and

deserves careful and dispassionate consideration.

For the purposes of the present paper I wish to consider the matter chiefly from the doctor's point of view. The Imperial, Religious and Social aspects of the question will be dealt with by others, but as a doctor of forty-eight years' standing I have been asked to make a contribution towards answering the question—Does artificial prevention of conception benefit or injure those who practise it? The problem is not one that lends itself to statistical treatment, and its solution must be sought in experience, and in a careful weighing of the relative advantages and disadvantages of the practice.

Among the many justifications advanced by those who wish to promote artificial prevention of conception we find the following :—

1. It is said to prevent exhaustion and ill-health of mothers.
2. It is said to prevent over-work and undue anxiety of fathers.
3. It is alleged that it secures a more comfortable environment and a better education for such children as are born.
4. It is said to lower the rate of infantile mortality.

5. It is urged that it tends to prevent the transmission of hereditary disease from parents to children, and also the communication of venereal disease from one partner to another.
6. It is also contended that under certain circumstances married life is good but the possession of a family undesirable.

I will endeavour to deal with these arguments one by one.

On behalf of artificial prevention of conception we are told—

1. *It is said to prevent exhaustion and ill-health of mothers.*

But it is quite evident that the burden of a large family is only one factor in the deplorable ill-health and disabled condition of many women, both rich and poor. In the case of the richer women there are such factors of poor health as excessive devotion to the claims of society, the injurious influence of hot rooms, improper and over-luxurious dietary, and errors in dress. Among the poorer women there are such factors of ill-health as grinding poverty, a constant inability to provide necessary food, warmth, light and clothing for themselves and their families, bad housing conditions, especially the absence of labour-saving contrivances, and the great incon-

venience of an inadequate supply of water both hot and cold. In addition to these evils, which are more or less inevitable, and which are not in any way the fault of the individual, there are women who, owing to defective education and training, do not make the best of such environment as they have, and there is a still larger class of women who, from ignorance and apathy, make but little effort to secure improved circumstances for themselves and their families.

Prominent among the causes of ill-health of working-class women must be mentioned their tendency to seek work outside their homes. This is sometimes a necessity forced on them by the inadequacy of the husband's contribution to household expenses; but sometimes it is the women's choice to go out to work: they have been accustomed to the variety, the social life and camaraderie which they enjoyed before marriage in mill, workshop or service. It is true that they are married, but it is equally true that domesticity is not their vocation.

Much in the same way it has been argued that Conception Control would obviate not only too frequent childbearing and lactation, but that it would also save women from the unduly heavy work and constant anxiety entailed by the possession of several children.

No doubt women vary in their capacity for work, but there are many women who find their best happiness in their duties as housemistress and mother: many to whom the possession of a family of several children is pure joy, and many who become nervous and irritable when their maternal instincts are constantly denied fulfilment.

2. *Conception Control is said to prevent over-work and undue anxiety of fathers.*

No one wants men to suffer from work that is excessive either in intensity or in duration, still less is it right for them to be a prey to constant anxiety as to their power to provide adequate and comfortable maintenance for their wives and families. But work in itself is desirable, and the excess which is to be deprecated seldom depends entirely on the additional mouths waiting to be fed. It is more frequently caused by wrong methods of work, by certain habits which tend to spoil work or to swallow up wages such as over-indulgence in alcohol or tobacco. Probably no man is happier or more free from care than a wage-earner who has a good master, whose environment is properly adjusted to the work required, who has reason to believe that he has a secure tenure of his work and a good hope of a decent provision for the time when he can work no more. Such a condition of

things is not Utopian; it could be secured if a better mutual relationship existed between masters and men. It is not the existence of a family that causes misery, but work under uncomfortable and insanitary conditions, the insecurity of tenure, and the liability to sudden disastrous reductions in wages caused by economic troubles and by personal imperfection both of masters and men.

3. *Conception Control is said to secure more comfortable environment and better education for such children as are born.*

It is true that given a small fixed income there will be a chance of better and more abundant supplies of the necessaries of life for a family of four than for a family of eight, and that the children's chances of good health and right development might be expected to be better in the small family than they are in the large, but there is the great truth that " man does not live by bread alone," and that on the balance of the account, happiness, well-being and the formation of a good character are usually to be found among the young people who have been freely subjected to mutual wholesome discipline. Only children, and the widely-spaced-out children of an artificial family, are deprived of the mutual pressure, correction and admiration which are enjoyed by those who have plenty

of brothers and sisters; therefore the foundations of success in life are more likely to be found in the large family than in the small. In the matter of primary education the Elementary schools are open free of charge, and up to the age of fourteen years equal advantages are offered to all. Naturally all children do not profit to the same extent, but there are the schools, the teachers and the books, and a family of six or eight children is as gladly received as are those of one or two members. The difficulty of securing adequate education is much more evident after the age of fourteen years, and more especially in the case of children whose fathers' incomes are just above the Plimsoll line of real poverty.

4. *It is said that Conception Control lowers the rate of infantile mortality.*

There is no direct and necessary connection between the size of the family and its sickness and death rates. No doubt there is more infantile mortality among the poor than among the rich, but this appears to be due more to want of knowledge and want of care on the part of mothers, so that in epidemics of measles, whooping-cough, diphtheria, etc., there is more delay in seeking medical aid. There is less facility for obtaining good nursing among the poor, and, as they usually

have the larger families, the death-rate rises in proportion to poverty and not to number of children.

Closely associated with the question of the comparative sickness and death-rates in large and in small families is the assertion that where there are few children they are likely to be of stronger constitution, handsomer and healthier. In support of this assertion it has been stated that where few trees or few plants are raised on a given area they tend to grow with greater luxuriance and vigour than when the area is planted with a large number. It is, of course, true that if an area be recklessly planted with a larger number of trees than it can support, excellence is not to be obtained: in the same way if human beings are overcrowded, health both physical and moral must suffer, but surely it is evident that just as five or six young oaks do not need a square mile of ground for their support, so five or six children do not require a whole terrace of houses for their home. For both plants and children sufficient but not excessive provision of space, air and sustenance must be provided; all in excess of this is waste of material.

5. *It is urged that Conception Control tends to prevent the transmission of Hereditary Disease from parents to children, and also the*

communication of Venereal Disease from one partner to another.

With regard to the transmisson of hereditary disease, it is true that where there is no child there is no heir and therefore no inheritance, but it is certain that the general public are poor judges as to the hereditability of disease, and therefore each couple who think of preventing conception in order to avoid transmitting a family burden to another generation should consult a doctor who has made a special study of the subject. Probably we were all brought up in the belief that consumption, and indeed tuberculosis in general, passed from parent to child almost inevitably. Of late years we have discovered the fact that tubercle is not inherited but that it is infectious. Children are not born with tuberculosis, it usually develops about six months after birth, *i.e.*, it develops about the time at which we should expect it to show itself if we believe that it is the result of the infant's intimate association with a tuberculous mother, and probably with other consumptive members of the household. We also know that infants and young children who live on cows' milk are especially liable to the form of tuberculosis which attacks cattle (bovine, not human).

Another disease that was always supposed

to be hereditary is cancer. The life history of cancer is not yet fully revealed, but so far as our present knowledge goes there is reason to believe that it is not hereditary, nor even infectious in the ordinary sense of the word. We have come to realise the fact that hereditary disease is likely to show itself during the early years of life, whereas we know that cancer is a disease which attacks people whose tissues are degenerating, and seldom shows itself during the years of growth and development.

A third problem for solution arises with reference to unsoundness of mind, and many people hold that when either husband or wife is mentally defective, or mentally unstable, they ought not to have children. Certainly those who are mentally defective from birth, and those whose feebleness of mind has been recognisable from childhood's days, ought neither to marry nor to have children, because an inborn defect is likely to be inherited, but there are forms of insanity which partake of the nature of accidents and are no more heritable than is a broken leg or the absence of an eye that has been put out by a blow or a fall. In all such cases a doctor accustomed to the diagnosis and treatment of mental trouble should be consulted and the advice given should be followed; for whereas

feebleness of mind, general paralysis of the insane, and some other forms of mental trouble may be inherited, there are others which are not hereditable, and it might be a grievous injustice to certain couples if they were denied the happiness which is connected with the possession of a family.

The contention that certain artificial methods of preventing conception would prevent the transmission of venereal disease from husband to wife, or from wife to husband, is absolutely futile. There is no local safeguard that can prevent the transmission of these contagions, and to advise people to employ them with this object in view is worse than useless. True prevention consists in non-exposure to contagion.

6. *It is also contended that under certain circumstances married life is good, but the possession of a family is undesirable.*

Many people honestly believe that virility in the man, and the capacity for enjoyment in the woman, are dependent on the more or less regular performance of the marital act, and it is alleged that ill-health and impotence will certainly follow any attempt at abstinence even although it be limited to a reasonable period. These questions were carefully considered and medical witnesses were heard on them both by the

Royal Commission on the Venereal Diseases and also by the National Birth-rate Commission, and there was not one dissentient voice from the opinion that abstinence before marriage and continence during marriage are not injurious to either husband or wife, and that circumstances may arise in which abstinence even during the married state may be safely recommended for a period. Not unfrequently a married couple misinterpret something said by their doctor and come to believe that, as they frequently say, "The doctor told me I must have no more children, and therefore either my husband or I must do something to prevent the arrival of another baby." In the great majority of such instances the doctor's veto has been for a time only, and probably referred as much to coïtion as to childbearing. There are states of health in which a woman would profit greatly by physiological rest, a condition which cannot be attained so long as she is living an ordinary married life. No doubt married couples should live together according to God's ordinance and in obedience to their right and natural instincts, but just as the stomach sometimes requires rest from food, so the organs of reproduction may require a limited period of rest.

The question of medical advice as to Conception Control.

Perhaps at this point it would be well to consider what sort of advice a conscientious doctor may think it right to give to those who seek instruction on the admittedly difficult question of how people may live a happy, healthy and ethical married life. Naturally the advice to be given would vary with the circumstances of those who ask for it. In the case of those young couples who think that the postponement of the advent of their firstborn may be advisable on grounds of health or of convenience, it might be pointed out to them that the employment of artificial methods of Conception Control, even those which appear to be most innocent, are not unfrequently followed by permanent sterility. A certain number of young people think it well to abstain from the joys of parenthood because it is not considered to be *the thing* for the first baby to arrive during the first or second year after marriage. Not unfrequently doctors, and more especially women doctors, are consulted, as to how soon it is right and proper to permit conception. Under these circumstances the advice should be—live a normal life, and do not thwart Nature in any way. If the baby comes, be thankful for it; if it does not come, wait patiently, and do not fret. To those who are anxious to postpone pregnancy for

financial reasons it may be well to point out that for the first few years the maintenance of a baby need not be a costly affair, the *necessary* food and clothing cost but little, and the economy which ought to be practised is a useful piece of self-discipline. The housing difficulty has been very real and very pressing, and many young couples have found it difficult to arrange for even the one small extra. However, things appear to be improving, and it is to be hoped that this difficulty will soon be a thing of the past.

The next group of people requiring medical advice are those who are anxious about the spacing of the family. They have been married perhaps eight or ten years and they have a family of three or four children and would like to have no more, or at any rate they desire that the intervals between the births should be lengthened. Closely allied to this group is another where temporary ill-health appears to demand a longer interval of time between pregnancies than that which is normal. In these cases the doctor consulted should carefully weigh all the circumstances that the couple wish to have considered, and advice must be given in each case according to its merits. The underlying principle would appear to be that no premeditated lengthening of the natural interval

between the births should be advised on merely selfish grounds, but that where deterioration of health, serious financial strain or other unselfish reasons exist, the couple should practise a certain amount of self-denial, and should restrict the act of marriage to that portion of the menstrual cycle which recent experience assures us is infertile, or at any rate practically infertile. It has long been known by doctors that the wave of fertility in women reaches its height during, or immediately after, the monthly period. Up to a short time ago it was believed that a practically safe period existed from about fourteen days after the commencement of one period up to the commencement of the next. Unfortunately the observations on which this was founded were imperfect. It is quite likely that before mankind was so greatly over-sexed as it is at present the so-called *safe* period may have been from the fourteenth day onward, but apparently it is now of shorter duration.

During the war a German doctor named Seigel found that in three hundred cases where the date of soldiers' visits to their homes were accurately known, insemination was not followed by conception when it occurred on the twenty-third and following days after the commencement of the last period. Practically

the same observation was made by Dr. Corby of Cork, who found that a safe period could be reckoned from the seventeenth day after the *end* of a period.

Patients seeking advice should be told of these observations, and they should also be informed that intercourse during this period alone, although probably not securing all that might be wished, is yet sufficient to gratify the really deep desires of a married couple. This medical advice ought to be combined with the admonition that although it entails a certain amount of self-control and self-denial, it admits of the desired spacing of the family without the use of an artificial contraceptive which might injure the health of either the husband or the wife, and which in some cases might entail future sterility.

Another means of limiting the family is to be found in the partial antagonism between the functions of the breast and of the ovary. These two organs are seldom both active at the same time. Women have long been aware of this alternation of function, and not infrequently they have unduly prolonged lactation in the hope of avoiding a too early resumption of fruitfulness. The women did not know that after a time, although a certain amount of milk was secreted, the breast was not really in full function, and that the return of the

monthly period was an indication that the quiescence of the ovaries had ceased. Continuance of suckling beyond the physiological time for that function not unfrequently resulted in the co-existence of pregnancy and lactation; indeed I knew a lady in India who continued to suckle her first baby until the very day that she fell into labour with her second. This was a most disastrous condition, both for the woman who was bearing the double burden, the child at her breast who had inadequate nourishment, and for the child in her womb, who, as it were, came in for the remnants of the feast only.

The third element of ordinary advice might indicate that marriage is not intended as a mere sanction of cohabitation; nor is it intended to be a shield for self-indulgence and selfishness, but it exists for the high and holy purpose of the increase of the human race, for a kindly provision for the right fulfilment of God-given instincts, and also for the spiritual and moral joy and happiness of the couple. The man and the woman who will not try to practise self-restraint and mutual benevolence are not fulfilling the avowed objects of Christian marriage, but are living in a condition which has been harshly stigmatised as *masturbation à deux*.

The *Practitioner* for July 1923 was a special

number devoted to the consideration of Conception Control. Ten practitioners of standing and experience each wrote an article dealing with the various aspects of this practice. Some of them approved of the *principle* of the artificial control of conception, others strongly disapproved of it. There was very little agreement as to the methods which might be taken to prevent conception without injury to the husband, or wife, or both. On one point, however, they were unanimous: not one of the ten approved of the use of any form of intra-uterine pessary, *i.e.* of any instrument intended to be introduced into the neck of the womb. All such instruments really favour fertilisation and conception because they keep the way into the womb open, but the instrument, whatever it may be intended to effect, is practically an abortifacient. If used with a view of preventing conception it fails, and it only succeeds in preventing the birth of a child by causing abortion or early miscarriage which may be accompanied by sepsis. The authors referred to stigmatise it in various terms: some of them call it *murderous;* another says, "it often acts as an abortifacient: it has given rise to endocervicitis, endometritis, pyometra, salpingitis, peritonitis and even death; *it is a very dangerous instrument.*" Another says,

" the use of stem pessaries would not be countenanced by any conscientious medical man." Another contributor urges that " the wish-bone pessary is not a preventive against conception, but favours it, and subsequently causes early abortion of the fertilised ovum."

Some of the contributors are emphatic in pointing out the harm done to both men and women by all instruments introduced into the vagina with a view to prevent the access of the fertilising fluid to the mucous membrane. Many of them hold that the natural secretions of husband and wife are mutually profitable, and that not only is nervous injury inflicted owing to disappointment and the absence of natural joy and passion, but that real physical harm results from the exclusion of the fluid. They also urge, and in this probably most gynæcologists would agree, that any instrument intended to be left in the vagina for more than a few hours tends to retain secretions which are naturally intended to pass away, and that these secretions, especially when not perfectly healthy, are apt to inflict injury on the delicate and sensitive mucous membranes of the parts concerned.

Upon a careful review of the foregoing arguments and considerations it seems to me that the undesirability of Conception Control is clearly proved from the point of view of

health. Among the many artificial methods that have been suggested and practised there is not one that has stood the test of practical use. Some among them appear to be fairly successful in preventing fertilisation; some are not effectual at all: those that are most effectual, such as the sheath and withdrawal (*coïtus interruptus*) have the grave disadvantages of interfering with the nervous health of both parties, more especially with that of the man, and they also prevent the access of the fluid to the internal mucous membrane, which is held by many authorities to be a deprivation of the means of health. Some of the contrivances are difficult to adjust and are therefore uncertain in action: indeed the difficulty is so great that their use is scarcely practicable by an inexperienced woman. In consequence of this women are tempted to leave them *in situ* for days, and even weeks, together, thereby causing irritation of the mucous membrane and also tending to retain secretions which ought to find a ready outlet. These secretions if retained for any considerable length of time are liable to cause injury to the mucous membranes immersed in them.

With regard to instruments, whether vulcanite, glass or metal, which are intended to be introduced into, and to be retained in the womb, there is a general consensus of

opinion that they are not only undesirable but dangerous, and as we have seen some authorities go so far as to call them murderous.

Many women complain that artificial methods of conception destroy all spontaneity and the rapture of love, an act that ought to symbolise and embody the purest, highest love. The most poetical act of which human beings are capable is degraded into a business matter which needs preparation and delay something after the fashion of a chemical experiment.

The whole aspect and story of artificial control appears to be sordid and unnatural, and when the immediate risks and the probable future consequences are realised it is difficult to understand that anyone should be found willing to practise or to advise such methods.

IV

BIRTH CONTROL

By Arthur E. Giles, M.D., B.Sc., F.R.C.S.

Nature never forgives, and never remits a penalty incurred. So when men deliberately break her rules, it is well that they should realise that harmful results must necessarily follow and that they are, at the best, choosing what appears to be the lesser of two evils. The thoughtful man will not transgress against the laws of Nature without good and sufficient cause.

These considerations apply to Birth Control, which is an insult to Nature and a violation of her laws. There are times when the insult must be offered and the laws must be violated, because danger threatens which appears to be greater than the retribution that Nature exacts for violated laws. But Birth Control should not be practised without grave and sufficient reason.

The subject of Birth Control falls into two natural divisions, according as it is advocated on medical or on economic grounds. We shall give separate consideration to the two aspects.

(A) MEDICAL ASPECTS OF BIRTH CONTROL

There is one exception to the general proposition enunciated above, that Birth Control is a violation of the laws of Nature. For there is a law that takes precedence in Nature's scheme, namely, the elimination of the unfit, in order to secure the survival of the fittest. If we professed to base all our actions on natural law and followed out the position to its logical conclusion, we should prevent the unfit from reproducing their kind, and so by degrees we should eliminate the vicious, the mentally unsound, the degenerate, and all who carry in them the seeds of hereditary disease. But there are moral as well as natural laws, and in our civilisation the carrying out of the letter of the natural law in the direction indicated would be repugnant to the spirit of the moral law. Medicine endeavours to hold the balance between the two, and to conform to natural law as far as is consistent with observance of the moral law.

There are circumstances in which Medical Science approves of Birth Control and recommends it; and these we must now consider.

Medical grounds for Birth Control. These are of several kinds.

1. *Hereditary disease in either parent.*—The vast majority of diseases are acquired by the

individual; but some are of an hereditary character; and as long as either parent shows signs of active disease of this kind, it is right, in the interests of posterity, that the begetting of children should not take place. Some diseases can be eradicated from the parents, who thereafter may be allowed to have children and those children will be healthy. Of this type is *Syphilis*. As long as signs of syphilis are present in one or both parents, children begotten at this period will be syphilitic. Consequently Birth Control is right at this stage. But syphilis can now be cured, and all traces of it eliminated, and the control of birth should be continued until this point is reached. *Tuberculosis* is in a somewhat different category, because it is the tendency to the disease that is inherited rather than the disease itself. But certainly no man or woman suffering actively from tuberculosis should be allowed to have children. When all signs of it have been eradicated children may be allowed, in the hope that careful attention to environment may counteract the tendency to the disease. *Mental disease* is notoriously hereditary, and the heredity is of a far-reaching character because it may remain dormant in one generation and break out in the next. Lunatics and imbeciles should obviously not have children, and it would be

conducive to the public welfare if such a catastrophe could be prevented by law. It would perhaps be Utopian to hope for the accomplishment of such legislation, because it would encroach dangerously on personal liberty: moreover, mental disease is so largely a question of degree. There are many minor forms of mental instability and some that are very close to the borderland of insanity; but it must be admitted that if all such individuals were eliminated, the community would lose as well as gain. The loss might indeed outweigh the gain, for many men and women of undoubted genius, whose works in art, in music and in literature have enriched the world, have been mentally unstable, and exceedingly difficult to deal with in their individual capacity. It is not necessary to quote instances, for conspicuous examples will occur to the mind of every thoughtful reader. In this class there have been people of ungovernable temper and passions, drunkards and sexual degenerates; but had they been eliminated by the exercise by their parents of Birth Control, the people who had to do with them would have been happier, but the world would have been the poorer.

2. *Diseases that make childbearing dangerous to the mother.*—It has always been a fundamental doctrine in medicine that when it is

necessary to choose between the life of the mother and that of the unborn child, the child must be sacrificed for the sake of the mother. There are many cases where the doctrine is sound from the point of view of the race as well as from that of the individual; because by preserving the mother, several children may be born later to replace the one lost. And if the principle be admitted in relation to the unborn child, it holds with greater force in relation to the unbegotten child. Consequently when there is good ground for the opinion that pregnancy and labour will entail serious risk to life, Birth Control must be admitted to have an ethical as well as a medical sanction. Thus there are some forms of *heart disease* in which the extra strain of childbearing would almost certainly prove fatal. *Tuberculosis* has been mentioned as a proper cause for Birth Control on grounds of heredity. It is also a reason for the practice having regard to the mother's health. For in women suffering from tuberculosis the advent of pregnancy aggravates the disease and may lead to a fatal termination.

Kidney disease is another reason for Birth Control; for when it is present the increased strain on elimination which is incidental to pregnancy may lead rapidly to serious and fatal developments, including the toxæmias

of pregnancy and puerperal eclampsia. There are other diseases that are aggravated by pregnancy, but we need not stay to enumerate them. We may, however, refer to certain tumours, the inherent dangers of which are increased by a concurrent pregnancy. Such are cancer of the womb, fibroid tumours of the womb, especially when occupying certain positions, and ovarian tumours. In the case of cancer, Birth Control should, of course, take the radical form of removal of the womb. With the other conditions, the proper course is to prescribe Birth Control until such time as the tumours can be dealt with; and after their removal, pregnancy can be allowed.

3. *Conditions that, in the event of pregnancy, would obstruct labour.*—Some of these conditions are mechanical and may be consistent with good general health. For example, *the bony pelvis may be contracted*, as the result of rickets or spinal curvature in early life. Or *the passages may be narrowed* by previous inflammation and contraction so that there is no room for a child to pass through. A third type is the presence of *fibroid* or *ovarian tumours* so situated that they would block up the pelvis and obstruct labour. When any of those conditions is known to exist, the potential mother has the right to say that she will not incur the risk of a dangerous

labour, and Birth Control is legitimate practice. These cases are in a different category from those previously considered, because when the factors of obstruction are known beforehand, it is possible to deal with the matter at the time of labour by the relatively safe operation of cæsarean section. A woman who ardently desires a child and cannot give birth to one by natural means has the right to elect to accept the chances of pregnancy and to undergo the operation. With the average intelligent woman the case should be discussed and explained, and the decision should be left with her.

4. *Previous difficult or dangerous deliveries.*—Apart from the causes of obstructed labour discussed in the previous paragraph, there are various conditions that may cause labour to be difficult, or dangerous at the time without necessitating any special risk or difficulty in a subsequent confinement. Among these may be mentioned faulty presentations, uterine inertia, excess of amniotic fluid, an unusually large child, placenta previa and puerperal eclampsia. We might also include cases in which a tumour has obstructed labour but has been removed during or after delivery. When a woman has been through the severe ordeal of labour under any of these conditions I hold that she has the right, if she wishes it,

to decline to face another confinement, even though there may be no reason to expect that her bad experience would be repeated. For what she has passed through may well have left her in such a state that the prospect of another confinement would fill her with a terror that would involve severe mental suffering, and perhaps a mental breakdown.

A somewhat different complication of childbirth is puerperal mania; like those mentioned it is not necessarily followed by a repetition of the experience in a subsequent confinement, but undoubtedly it must be considered as leaving behind it a predisposition to similar trouble.

In all these cases some form of exercise of Birth Control is proper and legitimate.

5. *Childbearing in excess of a woman's strength.*—It is well known that the facility with which women conceive varies very much. Some will do so every time the opportunity occurs. Others, given equal opportunities, will become pregnant only once in several years. We may concede that the difference may lie in the husbands as well as in the wives. With married couples of the first type it is obvious that unless a good deal of self-restraint is exercised, the woman may have a number of children with intervals of only a year or so between them; and unless

she be exceptionally strong, this rapid child-bearing will prove too much for her, and leave her a physical wreck. In order to prolong the intervals between the confinements, and to give her a complete rest after having several children in rapid succession, the practice of Birth Control is not only permissible but, from the medical standpoint, advisable.

(B) Economic Aspects of Birth Control

In this part of the subject, persons who have had no medical training are nearly as competent to form an opinion as those who have. I say "nearly," because although in the matter of the ethics of the question they are on equal ground, the medical person has the advantage in the matter of knowledge of the results of Birth Control on individuals.

The justifiability of Birth Control on economic grounds is largely an ethical question, and as standards of ethics vary, there will be corresponding divergences of opinion. I can only present this side of the subject as it appears to me personally; and I should say, that the reasons for Birth Control put forward on economic grounds fall into three categories :—

1. The legitimate.
2. The border-line.
3. The illegitimate.

1. *Legitimate reasons for Birth Control.*—Apart from the medical causes previously enumerated, I can find only one reason that is really legitimate, and that is when there is already a large family. What constitutes a large family will necessarily depend on circumstances. Four children would be a large family for some people, in the sense that parents could not hope to do justice to the prospects of a larger number. In other cases a family of ten or twelve can be brought up without difficulty; and much larger numbers would appear to have been possible a few generations ago. When as many children have been born as the parents can reasonably expect to provide for, the limitation of further births is ethically sound.

2. *Border-line reasons for Birth Control.*—This is a group in which the reasons are based on what is expedient rather than on what is right, and in which individual cases are debatable. For example, a young woman may have a great fear of labour and all that it implies. If she is already married, the adoption of methods of Birth Control may make for peace and happiness in the home, the alternative being divisions, recriminations and perhaps separation. In some of these cases time may bring about a change and the woman who has dreaded having a baby may

ardently desire one. Here it is a case of making the best of a bad business; and the proper course would appear to be for such a woman not to get married, or to wait until she can contemplate the advent of children with equanimity.

Then there is the plea of poverty. If the man and woman have married and are really poor, the case may be considered in the same category as the previous one. But the plea is often a specious one. In almost the poorest home the addition of a baby can be borne with little difficulty; the expense of maintenance of a child comes later, and by that time the parents should presumably be in a position to meet the greater cost. If a man really is too poor to provide for one child and has no prospects of being in a better position, he has no right to marry. If a man can support a wife alone in decent comfort, he can also support a child at the cost of a little self-denial.

It may be said, "What about the poor of the working classes and their large families?" It can be pointed out in reply that many of them welcome large families and by dint of economies manage to bring them up respectably. And for the rest, the case is met by what has been said under the heading of "Legitimate reasons for Birth Control." When these poor people have as many children

as they feel that they can bring up properly, the right to exercise Birth Control must be granted to them.

The people who plead that they "cannot afford to have children" are too often people whose real position is that they cannot afford it except by the curtailment of luxuries and the sacrifice of indulgences; and this is a course that they are unwilling to adopt. To such people I should accord no ethical sanction for their attitude or for the adoption of methods of Birth Control.

3. *Illegitimate reasons for Birth Control.*—Some young people, when they get married are anxious to avoid having children because they think that they can have a better time without them. The young men feel that the money that a child would cost is better spent on amusements—dinners, dances, theatres, cinemas, race-meetings, and sport. The young women feel that the advent and the care of a baby would cut them off from these various amusements. In my opinion the practice of Birth Control for such reasons is entirely wrong, both on medical and on ethical grounds, which will be more fully explained when speaking of the results of Birth Control. If pleasure and amusement are such all-important aims in life, let the young people amuse themselves and put off marriage until such time as

they feel ready to undertake the responsibilities of life as well as enjoy its pleasures. The conception of marriage ought to be intimately associated with the possibility of parenthood; and, broadly speaking, people should not embark on the former until they are prepared for the latter.

Another illegitimate reason for Birth Control is that it allows of illicit intercourse among the unmarried without fear of the possible natural consequences. Illicit intercourse has existed since life began; and one of the aims of civilisation has been to reduce it as far as possible. It will certainly continue to exist; but no self-respecting community should encourage it by removing one of the few powerful deterrents, namely, the fear of consequences. Most women are chaste by intuition and inclination; but some remain so only from motives of prudence. Although this is not the highest motive, it would be a grievous disservice to the community to destroy it, and virtually to say to the waverers, "Be of good cheer: by the use of methods of Birth Control you can join the ranks of your sisters, the prostitutes, without being found out." This may not be the object, but it appears to me to be the effect, of some of the popular writings on the subject of Birth Control.

The reasons for Birth Control can be sum-

marised by saying that there are circumstances in which it is advisable on medical grounds either for the sake of the health of individuals, especially the woman concerned, or for the purpose of preventing the birth of diseased or mentally deficient children; and there are some few circumstances in which it is permissible or advisable on economic grounds. I shall therefore pass on to consider the methods that can be adopted, and then deal with the other side of the question, namely, the reasons against Birth Control, based mainly on its results.

(C) Methods of Birth Control

Undoubtedly the one certain method of preventing conception is abstinence; but desirable as this is before marriage, it is not a practical solution after marriage.

The next best plan is the restriction of intercourse to the times when conception is least likely to occur. It is a general rule that the likelihood of conception is greatest from the fourth to the tenth day after the cessation of menstruation, and becomes progressively less from then until the next monthly period is due. It must be remembered, however, that there is no time between two periods when conception is impossible: so there is no time that is absolutely "safe."

All other methods are more or less mechanical, having as their aim the prevention of the entry of live spermatozoa into the uterus. They may be summarised thus :—

Prevention of entry of spermatozoa into the vagina.—This depends on the man, and there are two ways in which it may be done, namely, the use of a condom, and withdrawal before the act is completed.

Prevention of entry of spermatozoa into the uterus.—These methods depend on the woman. One is the use of a douche immediately after intercourse; for the others she introduces some obstacle into the vagina. A small sponge with a string attached for subsequent removal is the oldest of these methods. Next came the introduction of quinine pessaries, the action of the quinine being to kill the spermatozoa almost as soon as they are deposited. More recently the so-called " check pessary " has been boomed in popular works. It is a rubber cap which is supposed to be fitted over the neck of the womb. It is, to say the least of it, difficult to understand how a woman can do this for herself; but the advocates of the method profess that it is easy.

Operative methods.—It is possible to sterilise a man by surgical operation, but I have never heard of a man who was willing to have this done, so need not go into details. In the case

of women, sterility can be brought about by dividing and tying the Fallopian tubes, and when a woman has had several children, or one or more dangerous deliveries, it is permissible to do this at the request of herself and of her husband if an operation on the abdomen has to be performed for some other purpose. But an operation is never undertaken merely for the purpose of sterilising a woman.

With regard to the method to be employed in any given case, it will usually be best for the people concerned to consult their medical attendant, who should also, as a rule, be the person consulted as to the advisability or the necessity for adopting Birth Control in some form.

(D) The Results of Birth Control

The first and most obvious result of Birth Control is the limitation of population. Whether this result is good or bad is a debated point. I share the view of those who believe that a nation with a rising or steady birth-rate is usually vigorous and prosperous, and that a declining birth-rate points to decadence.

But I am concerned here with the effects on individuals rather than with the effects on countries.

When Birth Control is practised with a view to postponing or avoiding parenthood the

effect on husband and wife is to foster selfishness and self-indulgence; while many of the qualities that make for nobility of character, such as patience, gentleness, self-denial, care for others, and self-control for example's sake—qualities that must be developed in all parents who do their duty to their children—are liable to be shrivelled up through disuse. I am not, of course, charging all childless people with selfishness and the lack of the finer qualities. I am speaking only of the effects on character of a deliberate refusal to accept the responsibilities of parenthood when they are offered.

It is generally assumed that people who choose to avoid having children in the early years of married life can equally choose to have them afterwards when they have changed their minds. Experience shows that this is not the case, and that too often the adage holds true,

> "He that will not when he may,
> When he will he shall have 'nay.'"

Probably most doctors have had repeated instances, as I have, of people coming to them after some years of married life, complaining of childlessness, and admitting that in the earlier years they took steps to prevent the possibility of having children. How it comes about is a matter of conjecture. In some

cases it may be the effect of the method employed: I am convinced that the prolonged use of quinine pessaries may have this result. In other cases it is possibly due to marring of the spontaneity of the reproductive act and to a harmful effect in consequence on the normal ovarian activity. But however it comes about, I am convinced of the result; and a vast amount of unhappiness and disappointment, and a good deal of mutual recrimination may be introduced into the lives of both men and women when, after some years of married life, they begin to feel that a child is the one thing that they most desire and there is little or no prospect of that wish being fulfilled.

The method of withdrawal before completion, which is fairly widely adopted, is directly responsible for a great deal of neurasthenia in women. A life of abstinence has ill effects on very few; but when the emotional system is continually being excited up to a certain point and the excitation is as continually being arrested before it has had its normal fulfilment, the effect is definitely bad. The effects on the nervous system are avoided when the method adopted is the condom, the quinine pessary or the check pessary. From the point of view of the woman, the condom is probably the least harmful of all methods.

The drawbacks of the quinine pessaries have been mentioned. The check pessary, if properly applied so as to be effectual in arresting the entry of spermatozoa, has a deleterious action in damming up the natural discharges from the uterus and preventing their exit. The effect of this is to favour chronic inflammation of the uterus, and if the action should be long maintained, the inflammation would travel up and involve the Fallopian tubes. Inflammation of the tubes is one of the most important causes of permanent sterility.

Finally, I must refer to the question of fibroid tumours of the womb. Some years ago, when investigating the relationship between fibroid tumours of the womb and sterility, the following rather striking facts were brought out. Of 881 cases in which the diagnosis of fibroid tumours was verified by operation, 271 or 30·8 per cent. occurred in single women; 176 or 20 per cent. were in childless married women; so that in all, 447 or 50·8 per cent. were in women who had not borne children. The remaining 434 or 49·2 per cent. were in women who had had children; but among them the average time that had elapsed since the birth of the last child was ten years. The fibroid tumours could not be considered to be the cause of sterility, because these tumours occur in middle life, mostly

after the age of forty, and in a few cases after thirty. Pregnancy had therefore had its chance before the fibroids started. The unavoidable inference is that these tumours develop in the absence of pregnancy; and that when the womb is fulfilling its normal function of childbearing it is much less prone to become the seat of fibroid tumours. The corollary appears to be sound, that if the uterine congestion is frequently stimulated by married life without the opportunity of this congestion finding its normal outlet in pregnancy, it is all the more prone to expend itself on the formation of fibroid tumours. Consequently when Birth Control is exercised from the outset of married life, and before any pregnancies have taken place, it seems certain that the practice favours the development of fibroid tumours of the womb.

We may sum up by saying that the disadvantages of Birth Control are many and its advantages few. It is a necessity on medical grounds in certain circumstances, and it is expedient on economic grounds in a few cases. But its drawbacks remain, and consequently it should not be adopted carelessly and thoughtlessly; but should only be recommended and practised when the risks, dangers and drawbacks of childbearing definitely outweigh the risks and the drawbacks of Birth Control.

V

THE DOCTOR IN RELATION TO "BIRTH CONTROL" FOR THE INDIVIDUAL AND FOR THE COMMUNITY

By R. C. Buist, M.A., M.D.

The term "birth control" has for the time been appropriated to a series of manipulations by which the sequence towards pregnancy in sexual relations is purposefully interrupted, and the discussion about it involves the various ethical, social and biological processes which such interruption affects. In a wider sense, as regulation of the courses leading to birth and the consequences which proceed from it, birth has never been free from controls of various kinds, and the facts of our experience of the conditions of these controlling influences may aid us in settling questions of duty and of action for the individual and for the community.

The Registrar General for Scotland in the "Monthly Returns" records the fact that of children born alive in the large towns, more than one in twenty is illegitimate. The test of legitimacy has existed in the interest of

those concerned in the inheritance of property, but it carries many other social advantages, and the disadvantage when it is lacking has often constituted a tragedy. The steady persistence of the high illegitimacy rate is a proof of the force of the primary urge towards birth, and also a measure of the difficulty of its control.

In discussion of the ethical aspects of birth, argument often seems based on a tacit assumption that the difference in the social value of members of the community may be measured by their grading in a scale of education or of wealth or standard of living, but there are among us cultural levels only roughly related to these scales, and at these levels the ethical standards may be very different. If there are some who claim to have passed beyond the Ten Commandments, there are others who lie many racial strata below them. There are social groups where in courtship the girl becomes the sexual property of the boy and is so used at each meeting, and the relation thus opened is an essential step in the progress to marriage. It seems likely that many generations will pass before we have a community of uniform ethical standards of behaviour.

Since the inertia of social tradition is so great it is likely that for a long time similar

varieties of ethical standard will persist, and to those who cherish our recognised standards of right and wrong this very persistence may afford assurance against the risk of any rapid deterioration. The additional fact that for half a century mechanical means of preventing pregnancy have been more widely known among those inclined to sexual licence than among the rest of the community may further lessen anxiety regarding the likelihood of widespread immorality. In any case the experiment of possessing this knowledge is being made, and its outcome will in course of time be revealed.

The field is now cleared for the consideration of the question, " What should the medical practitioner teach his patient? " the assumption being that the continuance of sexual relations in marriage with the prevention of pregnancy is the issue to be decided. Since medicine is not a " mystery," but a treasury of knowledge which the medical practitioner holds for the use of the community, he cannot evade the function of teacher which is enshrined in his courtesy title as " doctor."

An obstetric surgeon recently stated that he had done Cæsarian section seven times in one patient, and contested the proposal that cases where this is the only method of delivery should be sterilised or offered other means

for the prevention of pregnancy. Most surgeons would probably dissent from this, and on repeating the operation grant a request of the woman to be sterilised. Underlying the request is the assumption that in other respects sexual relations will be maintained. The need for Cæsarian delivery is not the only occasion which requires the doctor to consider the prevention of pregnancy. Women with certain conditions of heart or lung or kidney must be advised that they should not become pregnant. Is the doctor to stop at this point? His patients will certainly invite him to go further and advise them how this may be secured. To decline such a request would be as little reasonable as to refuse to write out a diet list for a diabetic patient. To be unable to give advice would seem to imply professional ignorance.

How should the doctor answer married patients who ask how they can live happily together and avoid pregnancy? The first possible answer is sexual abstinence. We know by long experience that celibacy is both psychically and physiologically practicable for the unmarried at the middle cultural levels, and that there are natural adjustments; though on the discovery of some of these many an ignorant young man has been unduly alarmed by the vendors of virility. In the

intimate relation of a mutually affectionate pair abstinence is not usually feasible save for exceptional persons, and even when it is feasible it is not always harmless. The recommendation of abstinence is not likely to lead to the happy life together which is an essential condition of the answer.

Rejection of celibacy as the advice for ordinary people carries with it the rejection of the claim that the sexual relation should be engaged in only when a child is desired. The end of an appetite is reached at its satisfaction and the biological purposes of its existence need not be within our consciousness. It would be unreasonable to demand that eating and drinking should only be performed in conscious apprehension of the ensuing concoctions, or to describe as vicious the delicate pleasures of the table or of music. So it would be unreasonable to ban the sexual act as an expression of mutual affection or even as pleasure. Pleasure in eating or drinking or in the sexual act may become vicious and harmful, but the harm is not in the pleasure.

The next way in which pregnancy may be usually avoided is the interrupted coitus recorded in that book which is in every household. Official misapplications of the record have probably much restrained the employment of this method, but it is constantly

rediscovered by people for themselves and it is well known to the medical profession by numerous instances of its harmful results. It is possible that persons of great moderation may have used this practice over long periods without appreciable mischief, but so many instances of its harmful influence are known, especially in women, that advice should be given against it.

That there are fundamental vital rhythms in female life is the only interpretation that we can put on the observed facts of menstruation in women and the periodicity of sexual appetence in female animals, but the exact relations of ovulation and of aptitude for fertilisation to the menstrual curve are not matter of agreed knowledge, and observations on a rhythm of feminine appetence are not yet sufficiently numerous or on a wide enough basis to warrant the formulation of general rules. Our knowledge is certainly not exact enough to afford confidence in advice based on a "safe period" of temporary incapacity for fertilisation, and there is some evidence which suggests that practices founded on this notion may not be in harmony with our present ideas of sexual justice. It cannot be recommended for the purpose we seek to serve.

The method of douching immediately after coitus has been widely employed, but it is

liable to grave physiological dangers and is not to be advised.

The methods which remain for consideration depend on the use of drugs, such as quinine, to kill the sperm, or on the use of an occlusive pessary or a sheath to prevent the sperm from reaching the ovum. These methods are described in sufficient detail in available publications, and here we need only note that in individual women idiosyncrasy to quinine or the impracticability of using a pessary may limit the choice and guide the doctor in giving his advice.

Thus far we have been dealing with the management of married women who have some actually existing medical condition requiring the prevention of pregnancy, but the modern argument demands in addition consideration of the prevention of pregnancy, first, for women who are in anticipation of danger from too many or too frequent childbirths, and second, for those in presence or in prospect of economic discomfort. These influences have led to two forms of evil: first, the ignorant adoption of harmful methods of preventing pregnancy, and second, attempts to procure abortion. Some years ago in an industrial part of England lead poisoning became almost endemic among married women and took its origin from the desire to secure

abortion. How should the medical profession meet requests for information which arise from fear of too frequent childbearing or of economic pressure? The practitioner under his responsibility to individuals is obliged to face the issues with and for them. Should he find himself forced to the conclusion that his patient will adopt means of preventing pregnancy which are harmful, or becoming pregnant will seek to procure abortion, it may be difficult for him to refuse a prophylactic use of his knowledge of birth control. It is possible that a frank discussion of the whole subject with his patients will sometimes avert such a conclusion.

At this stage the discussion has at times become involved in an emotional atmosphere to the prejudice of clear thinking. Too near a tree we cannot see the wood, and close to the woman in distress attention is apt to be fascinated. Ignorance, bad housing, drunkenness, poverty and excessive childbearing are near neighbours in some places. Some would concentrate social effort at the point of excessive childbearing and teach mechanical methods of birth control. The task of clearing the social morass would certainly be no greater if they could lift some individuals out of it. Their experiment is being made, and the question whether their activities should

be recognised as on a plane of benevolent agency comparable with that of the temperance or the housing reformer does not directly concern the medical practitioner as the adviser of the individual.

It is unlikely that the medical practitioner will be able to maintain the Gallio pose held at the close of the last section. He has had better than average opportunities for a knowledge of biology, and if he is not expected to be expert in economics like the journalist or in ethics like the cleric, he is often an ardent politician, and on the public issues opened by the propaganda for birth control he will certainly be asked for his judgment.

The biologist has the great advantage of being able to project social modes and movements upon the slowly unrolling screen of human generation, and in that perspective to distinguish moods which may be variable and transitory from essential characters passed from parent to child and in the passage strained of incidental disturbances. The generations of the human race are renewed only three or four times in a century. Ten generations in Britain would reach back to the union of the Crowns, twenty to Bannockburn, and thirty beyond the Conquest. Seventy generations began before the Christian era, and a hundred generations ago,

none had heard of Homer or of Greek philosophy.

The genetist would need many generations to fix in the chromosome a representation of characters not previously matter of inheritance, and had there been some prehistoric Greek who knew what characters must be combined in a stable human inheritance of high rank, and whose knowledge had directed generation through these three thousand years, experience might now show how far his standard had become embodied in our present heritage. No such knowledge existed, and there is no room for surprise at the fact that while the modes and fashions of men have varied, the brain as a thought-machine works much as it did in our historic forefathers, though an encyclopædia of physical detail has been added to the material on which it operates. Neither hopes nor fears for the essential qualities of the race are likely soon to be realised.

The difference of birth-rates at various social levels will afford a number of points at which the doctor will be expected to show knowledge. The following statements are frequently met : that the difference of birth-rates militates against those whose social qualities are most valuable ; that the adoption of the methods of birth control is an important

factor in the lessened birth-rate of the intelligent; that the teaching of the methods of birth control to persons at the lower economic levels would tend to remedy the effects of this difference. It is true that a correction must first be made by transferring consideration from crude birth-rates to the rates of survival to the age at which the next generation is produced, but the doctor will realise that his own activities, especially those devoted to the public health, tend to render this correction less important, since any success he may achieve in lessening mortality in the young brings the effective survival rate closer to the crude birth-rate. Since the instances of the replacement of two parents by only one or two children are more frequent at the level described as more valuable, there is an apparent discrepancy between the value so assigned and the racial value. The biological dice seem to be loaded against the socially "successful."

The line between egoism and altruism affords a criterion by which we can classify act, motive and character, and some biologists, *e.g.* Geddes and Thomson, have pointed out in the advancing line of evolution through the mammal into man a trend to the altruistic side in the increasing devotion of parent to child. The line of social cleavage between

the successful and the unsuccessful seems at first sight, in the more ample share of the world's goods, to indicate an increase of egoism in the successful. Yet the impulse is so often a parental desire to give further advantages to the offspring that it might be interpreted as a natural extension of that maternal altruism which has characterised the biological advance. Whether this be so or no, if it leads to reproductive failure the exaggerated maternalism would seem to have passed the limits of biological equilibrium and to be racially condemned. The differential survival rate would then have to be regarded as a racial protection against the present conditions of social success, and the Chancellor of the Exchequer might be encouraged to rejoice in a biological justification for increase of death duties and income tax.

Biology furnishes another fundamental principle with a wide range of application which is relevant to our topic. The elementary living being finds a difficult practical problem in the co-ordination of its interest in nutrition with the result of this in its spatial extension or growth. The bulk of the mass to be nourished is a measure of the needed nutriment, but of its ability to obtain this nutriment the measure is the area of surface of contact with the rest of the world.

Now in growth the surface increases by the square of the linear measure, but the bulk increases by the cube, and the various lessons which living beings have learned in the way of meeting this difficulty are recorded in modifications of unicellular form, in the grouping and differentiation of multicellular forms, and in reproduction by successive generations. Living beings have never been able to get rid of the elementary mathematical fact, though they have discovered many devices for dealing with their difficulties that arose from it.

Throughout the whole of the living scale illustrations are found of the connection of the problems of generation with those of nutrition. Neither set could be solved independently, and experimental biologists have recognised their ability to modify the results in generation by operating on the factors in nutrition. They are able to secure males or females or infertility from a group of ova by altering the nutritive media. Curious chemical fingers are probing into detailed questions such as the influence of lipoids, but we cannot yet pass step by step from their acquisitions of knowledge to the human problem. Nevertheless, in the human problem the congruent observation has been made that conditions of high nutrition are apt to be associated with

low fertility. It is possible that the infertility of the "successful" is to be interpreted by this, and that the practical application to an unduly high birth-rate of the poor would direct the encouragement of those agencies which tend to raise the standard of living at the lower economic levels. Of the political measures of our generation the introduction of national insurance is perhaps the change that will most deeply influence our racial problems.

The doctor will probably be asked for his comment on the topic of what is natural and what is artificial, though this is almost a digression from the main theme which has developed here. Fortunately the needed comment is very simple. Things natural have been longer tested than things artificial, which have started at a more recent point. The line between them is constantly changing. It might be argued that for an elementary organism the stomach of a gastrula was artificial, but it has become natural for us, and even if we begin our studies at the moment when our ancestor first lifted a twig to extend his range or smashed a nut with a stone instead of dashing it from a tree, many one-time artificialities have become as natural to us as language or the use of fire. The justification of a new device is its efficacy, and till

we go to Erewhon its artificiality need cause us no grave anxiety.

We may thus summarise the results which have been obtained in the two parts of this discussion. For the individual the issues involved in the purposeful adoption of means to prevent pregnancy are matters in which the medical practitioner is responsible for guidance. In the racial issues that arise in connection with social discontents we are dealing with deep-seated secular processes, and there is not as yet evidence to show that birth control is an essential factor in remedying the discontents.

VI

THE STATE AND BIRTH CONTROL

By LETITIA D. FAIRFIELD, C.B.E., M.D., D.P.H.

A PROMINENT feature of the Birth Control campaign in the past few years has been the demand that the practice of contraception should be taught at the State-supported clinics for mothers and young children. Brought at last before the House of Commons in February 1926, the proposal was heavily defeated, but the battle will only be transferred to the constituencies and will rage hotly at future Parliamentary and Municipal elections. Important questions of principle and administration are involved, which are well worth discussing in detail.

Public support for the State recognition of Birth Control is already widespread and is steadily increasing. It is expressed through the medium of the popular Press, the scientific journals, political conferences, women's societies and clubs, and is extraordinarily diverse in origin and motive. The driving power appears to derive in the main from three great sources: the Neo-Malthusian group of

economists and eugenists, the women of the Labour movement, and to a lesser degree from the medical officers working at the Maternity and Child Welfare centres. All are at one in desiring to save the women of the poor from excessive childbearing, but at that point unanimity ceases and astounding and significant discrepancies appear.

The main position of the Neo-Malthusians is well known and need neither be stated nor discussed in detail. Their simple creed teaches that "Malthus proved for all time that the pressure of population on substinence was the primary cause of poverty and most social evils, and that no alteration of the social fabric could get rid of these evils if reproduction were unchecked. . . . Birth Control, especially if eugenically directed, can eliminate poverty in the sense of destitution, and nearly all other social evils, without any other important reform whatever." [1]

Even if these suppositions were accepted, it would by no means follow that the wisdom of State encouragement of Birth Control in England is necessarily proved, for the Malthusians are by no means clear on the point, apparently immaterial to a doctrinaire

[1] Dr. C. V. Drysdale, *The Neo-Malthusian Ideal and how it can be Realised*, 1921.

economist but vital to a statesman, as to the lower limit to which a population can safely be reduced without fear of extermination. There must be such a limit, and the State must have some guiding principle to indicate when it is reached. It cannot start on a policy of instigating its members to limit their offspring in the light-hearted spirit of the classic music-hall song, "I don't know where I'm going, but when I get there I'll be glad!" Is the test to be an empirical one, and is the birth-rate to be lowered until the promised disappearance of social evils has in fact occurred? No satisfactory answer is forthcoming from the economists themselves. We find Mr. Harold Cox suggesting apparently on purely arbitrary grounds that we should "go back to below 30 millions," while Mr. Bertrand Russell is even vaguer. He considers a stationary population in England, indeed in the world, would be "a good thing," but that there is no fear of an excessive decrease, because "there are a great many people who like to have a number of children, and if they are free to choose they would have as many as was necessary."[1] Dr. C. V. Drysdale[2] is more helpful. "On purely Malthusian grounds," he admits, "the need for the

[1] *Ethics of Birth Control*, p. 143.
[2] *The Neo-Malthusian Ideal*, p. 9.

diminution of the birth-rate disappears as soon as food can be found for all, so that as this result is obtained either by further reduction of the birth-rate or by improved efficiency of the race, our Malthusian object is secured." As starvation has practically disappeared from the Registrar-General's returns, it would appear that food is, in fact, being obtained in England for the people of England (whether it is equitably distributed is another matter), and by the purely Malthusian test the desired limit has already been reached. Indeed, Dr. Drysdale himself states that "although it seems desirable that it (the birth-rate) should be lowered by a few points . . . the question of population is beginning to change from almost purely one of quantity to one of quality." [1] In other words, the present system is evil not so much because too many children are being born, but because they are coming from the wrong section of the population.

Here we get to grips with one of the most popular arguments in favour of State-aided Birth Control. It is not in dispute that the birth-rate falls as the social scale rises, though statisticians are by no means agreed as to the interpretation of the facts.

[1] *Op. cit.*, p. 9. The birth-rate in 1921 was 22·4 per thousand: it is now 18·8.

[1] Unskilled Workmen	213	births per	1000	married males.
Intermediate Class.	158	,,	,,	,,
Skilled Workmen .	153	,,	,,	,,
Intermediate Class .	123	,,	,,	,,
Upper and Middle Classes . .	119	,,	,,	,,

Many authorities gravely doubt whether artificial restriction accounts for all the difference. As Dr. J. Stevenson [2] has pointed out, the rich were having fewer children than the poor in 1851, long before the use of contraceptives became general. There is much support from biology for the belief that under-feeding and other incidents of poverty increase fertility.[3] Whatever the cause, however, we are undoubtedly breeding faster from the poor than from the rich. The lower 25 per cent. of this generation are producing 30 per cent. of the next.[4] The fact is terrifying to the intelligentsia. Why? The Neo-Malthusian eugenist has no hesitation in replying, like Tennyson's " Northern Farmer," that " the poor in a loomp are baad." Not only do they include the bulk of the mental and physical weaklings classed as the unfit, but the " poor " are of necessity " unfit " by

[1] *The Declining Birth-Rate*, p. 253.

[2] *Proceedings of the Royal Statistical Society*, 1921.

[3] *The Fertility Question*, by Mr. J. E. Pell. Paper read before the International Congress on Birth Control, July 1922.

[4] Evidence of Sir W. Beveridge, *Ethics of Birth Control.*

reason of their poverty—they have failed to get rich. They are dullards and they are expensive. "Those suffering from known hereditary disease may marry but not have children . . . and those who are relatively poor (*which must be admitted to be evidence of economic unfitness*) should only have the number of children they can rear decently without State or other aid."[1] In this quotation, which could be supplemented indefinitely from the writings of prominent birth controllers, lies the secret of much of the enthusiasm poured into this cause. It explains why certain uncompromising opponents of State and Municipal enterprise in every shape and form suddenly demand with vehemence that public moneys should be used to relieve the obstetrical troubles of the women of the slums. State education and subsequent social reforms have made the size of the working woman's family a vital matter for the professional man's pocket, hence teaching Birth Control to the working class is a form of insurance against high taxation. Hints are not lacking that it will have an even higher usefulness. When free instruction is available to all, the screw can be put on and the working class ordered to

[1] *The Neo-Malthusian Ideal*, Dr. C. V. Drysdale. Italics not in original.

adapt the number of their children to the amount of money which the upper classes may be willing to spare for them. Dean Inge has suggested that the State should refuse to educate free more than four children in one family; the vast funds squandered on subsidising housing could obviously be economised by a similar scheme.

Having absorbed this tempting political philosophy, it is disturbing for the enquirer to find that the Labour women birth controllers reach their goal by a very different route. The speakers at the Birth Control discussions at the Labour Women's Conferences in 1924 and 1925 seemed blissfully unaware that they and the women for whose enlightenment they were pleading were the "unfit," the polluters of the race. On the contrary, it is just because they regard their children as so precious that they wish to restrict their numbers, and secure for them, as they think, the same advantages as the rich man's child. Their protest is, on the whole, not against motherhood but against motherhood under modern industrial conditions, rendered intolerable by the post-war difficulties of housing and unemployment. These just resentments have been smouldering for many years and have been enhanced by the public

health measures of the past fifteen years, which have raised the mothers' standard of well-being for themselves and their children, and their sense of responsibility. It was a momentous day when the mother learnt that a child's death—and later that its birth—was something beside an act of Providence over which she had no control! Now Providence tends to be forgotten in a desire to use, according to her own wisdom, the new knowledge for the benefit of her children. She sees everywhere the middle-class woman limiting her family to suit her economic needs, and she demands that she—whose need is manifestly greater—should be given the means to do likewise.

It is rather surprising that the workers' demand for Birth Control teaching reveals such an unquestioning acceptance of highly disputable statements. The non-medical propagandist theories of the safety and certainty of contraceptives have evidently been swallowed wholesale. There is never a hint that the "small family" system has been anything but an unmixed boon to the wealthier classes. One notes also a tendency, especially among the younger women, to speak of large families as in themselves a source of ill-health, a fallacy which has been

repeatedly disproved.[1] Of the possibility of what Malthus called "prudential restraint" as a means of limiting too rapid pregnancies and of the need for teaching a more exalted ideal of married life, one hears little.

From the medical officers of the Maternity and Child Welfare clinics comes a considerable body of support. The intimate acquaintance with a certain aspect of the seamy side of life, and the deep affection and respect for the working woman which clinic experience engenders, continue to make many medical officers anxious to have every possible palliative at their disposal. They allege that the fitting of patients with contraceptives in suitable cases is medical treatment, and they resent any restriction in their professional dealings with their patients. It is fair to state that this opinion is far from unanimous, and many senior M.O.H.'s, including Sir John Robertson of Birmingham and Dr. Kay Menzies of the London County Council, are strongly opposed to the teaching of Birth Control in any form.

[1] See Dr. J. Brownlee, "The Statistic Aspects of Birth Control," November 11, 1924, *Lancet:* "There is no evidence that large families were more unhealthy than small ones, and the statement that it is better to have three healthy children than six unhealthy ones has no foundation." See also Dr. Katherine Gamgee's paper, "Some Modern Aspects of Birth Control," *Public Health*, October 1925.

Since 1923 considerable pressure has been put on the Minister of Health by deputations representing the above-described interests, to relax a departmental order forbidding instruction in contraception to be given in any State-aided Maternity and Child Welfare clinic. Mr. Wheatley and Mr. Chamberlain have both consistently upheld the view that existing legislation empowering them to "attend to the health of expectant mothers, nursing mothers, and of children who have not attained the age of five," [1] could not justifiably be extended, without special authority from Parliament, to cover women who were *ex hypothesi* seeking to avoid motherhood. On February 9, 1926, the opinion of the House was tested for the first time by a Bill introduced under the Ten Minutes Rule by Mr. Thurtle, M.P., opposed by Mr. James Barr, M.P. The measure proposed would have authorised "local authorities to incur expenditure, when deemed expedient, in conveying knowledge of Birth Control to married women who desire it." It was defeated by 167 votes to 81, members of all three parties being found in both lobbies. The relationship of Birth Control to party politics is a complicated subject, and it must suffice to state that the Labour Party

[1] Maternity and Child Welfare Act, 1918, Sect. I.

Conference, 1925, passed a resolution that "the subject of Birth Control is in its nature not one which should be made a political party issue, but should remain a matter upon which members of the Party should be free to hold and promote their individual convictions." The strong Catholic and Presbyterian vote from Scotland and the North is undoubtedly responsible for this result. The women of the Party seem to be keener than the men, and even the women's executive is not unanimous. The Conservatives have not publicly considered Birth Control along Party lines, though many distinguished birth controllers belong to their ranks. Oddly enough, the Liberals, who need to restrict their own numbers least, are strongly in favour of family limitation.

The defeat in the House of Commons has necessarily blocked further efforts to induce the Minister of Health to introduce contraceptives by a side door into the clinics. The matter is now bound to become an acute issue at elections throughout the country, and the demand will very probably take the form expressed in Mr. Thurtle's Bill. An attempt to visualise the situation which would confront Local Authorities and administrative officers if such a measure became law may be of interest.

In the first place, Local Authorities would find that they were taking on the responsibility of intermeddling with the health of the country in a sphere where medical opinion is chaotic and the possibilities of physical harm are endless. The position is wholly different in kind from that in the other clinical departments, such as tuberculosis, venereal disease, infant welfare, which come under the ægis of their medical officers. Here the advising officer can secure that there is a solid body of medical opinion and experience behind any treatment recommended, but the subject of contraceptives [1] is admittedly not even taught in the medical schools. Mrs. Stopes has every justification for her superb gesture in the *Daily Herald*: "I *teach* doctors!"

As a *Lancet* note pointed out on November 29, 1924, "The majority of young doctors would readily admit that the subject was not referred to in their curriculum and that they are not competent to weigh the social and domestic consequences of enjoining complete abstinence on married people, who for economic or medical reasons should not produce a large number of children, against the alternative of giving instruction in appropriate methods of contraception."

[1] *The Practitioner*. Special number on Contraceptives, July 1923: Introduction.

Even among leading gynæcologists there is an ominous clash of opinions, and one expert may be found advocating as the "least harmful of all" methods a device denounced by a brother specialist as a cause of septic endometritis, and "too nasty and unhygienic to be sanctioned by medical opinion." [1] In other sections of the symposium from which these extracts are taken some well-known specialists recommend the quinine pessary as harmless and effective; others maintain it causes congestion and possible sterility, and is useless for its intended purpose. There is a similar divergence of opinion on the rubber devices.[2] Indeed Dr. Killick Millard informed the International Birth Control Congress in 1922, that, in replies to a questionnaire addressed to leading gynæcologists by Dr. Binnie Dunlop and himself, the sheath was recommended in about one-third of the sixty-five replies, but none of the other methods was supported to any extent. A Medical Officer of Health might well hesitate to encourage even such a highly competent and experienced body of doctors as the medical officers attached to the Maternity and

[1] *The Practitioner*, July 1923, pp. 11 and 38.

[2] See also *Birth Control Exposed*, by Dr. Halliday G. Sutherland, Chap. VIII, and "Problems Involved in the Congress of the Sexes in Man," Prof. A. Thomson, *British Medical Journal*, June 1922.

Child Welfare clinics to rush in where their leaders tread with such uncertain footsteps.

As to the "medical indications" for the use of contraceptives, one finds an equally great divergence of opinion. At one end of the scale are enthusiasts who advocate contraceptives in normal married life among healthy people to ensure the wide spacing of a family. At the other end are those who hold that advice to limit the family (by continence or otherwise) should only be given where there is a very definite physical reason for believing that another pregnancy would be harmful to the health of the mother. Progress in antenatal hygiene and in the domains of general medicine and surgery are, however, steadily improving the chances of the mother, and without entering into a detailed discussion it may be confidently stated that the medical contra-indications to pregnancy are growing fewer year by year. Nowadays wide "spacing" of children is generally condemned on both psychological and obstetrical grounds, and is regarded as a misfortune when it occurs naturally.

All discussion of the indications for Birth Control from the doctor's angle would, however, be irrelevant if the proposals embodied in Mr. Thurtle's Bill became law. It is clearly laid down therein, that the instruction

shall be given to "married women who *desire* it." This must inevitably be so. Birth Control applied to the narrow range of cases where motherhood is physically contra-indicated (the bad heart and renal cases, etc.) would be of no interest whatever to 99 per cent. of its supporters, to the over-populationists, the alleged eugenists, or the genuine sufferers from bad housing and unemployment. Once the indications for use pass from medical to economic or personal grounds, the discretion can no longer lie with the doctor, whose opinions on such matters have no special value. If Birth Control is a legitimate remedy for poverty, it is only reasonable that those who feel the pinch should have the deciding word. Nor is it the least likely that Mr. and Mrs. X. will accept dictation as to the number of the children they can afford on their wages from young Dr. Y., sitting at a clinic, and acting on the report of Nurse Z. !

There seems to be no escape from the position that a clinic medical officer by the terms of the statute would be obliged to instruct any married applicant without further question. She may be perfectly fitted for motherhood or indeed in actual need of a child, as is many a young wife; she may be actuated by palpably inadequate or even

unworthy motives, but if she so "desires" the medical officer must use his medical skill to help her frustrate a child's coming.

There has been no comment on a matter which raises further grave considerations for all concerned, the proposal that instruction is to be given at the request of the wife alone. Even where the doctor is discouraging pregnancy on strictly medical grounds, and the woman has an indisputable right to refuse childbearing in order to avoid some abnormal risk to her life or health, it would appear only just that the husband should at least be placed in possession of the facts before his wife is fitted with a contraceptive. He, though only a husband, may have religious scruples of his own and might prefer to exercise "prudential restraint." Mr. Thurtle made it clear, however, that he was not speaking of abnormal cases, but was trying to establish a general principle.

"These are days of sex equality, and if the House is honest, it must realise some implications of that sex equality. I submit that one of them is that a woman is entitled so far as practicable to decide what the size of her family should be."

This doctrine is not new. The protest against "unwanted children" has been a commonplace in a certain type of feminist

speech since the days of the Suffrage Campaign, and the argument that "children should only come when desired" is equally familiar in Birth Control literature.[1] The full implications of the principle are not discussed, but it seems to be generally understood in the sense interpreted by Mr. Thurtle, *i.e.* the number of children in marriage are to be decided by the wife at her good pleasure.

It is frequently pointed out that in these days Parliament is constantly making fundamental changes of vital importance to the nation without any sign of understanding of the principles involved. The birth controllers and their friends do not seem aware that they are proposing to alter the whole ethical basis of marriage—as a casual incident in Public Health legislation. (The religious aspect may be omitted, as the question could not arise in this form where Christian views of marriage are held.) Under the existing English law the male party to the contract of marriage incurs certain very definite obligations towards his wife in consideration of her promise to consort with him—a promise which is still understood to imply a moral obligation to bear his children. For the future it is proposed that while the husband's

[1] See also evidence of Mr. Bertrand Russell, *Ethics of Birth Control*, p. 123.

onerous obligations remain unchanged, the wife's task of childbearing is not to be regarded as an obligation, or indeed a matter in which he has direct concern, but is to lie at the mercy of her transient emotions. She might not experience a " desire " for more than one child, or indeed for any children at all, and according to the new principle her husband would have no right to complain if she refused to bear any. Moreover, the State will equip the wife (at the expense of her husband as taxpayer) with the means of defrauding or perhaps deceiving him. It would, of course, be equally objectionable if the rôles of husband and wife were reversed, and it was proposed to give legislative sanction to a husband's alleged " right " to deprive his wife of motherhood.

A discussion of the practical administrative difficulties involved in State-supported Birth Control has led into unexpectedly deep waters, and this not by considering " hard cases " or rare exceptions, but by following the ordinary and inevitable sequence of events. An equally inevitable and immediate difficulty would arise from the fact that Local Authorities could not hope to avoid sharp contact with religious and ethical opinions on Birth Control. It is indisputable that the thing violates the deepest convictions of

millions of British citizens, including all Roman Catholics and orthodox Jews, many Anglicans, Presbyterians and members of other denominations. The proposal to spend public funds on the detested practice would concern every rate and tax payer, and would introduce into English political life a religious bitterness from which it has been happily free. On the administrative side, it would follow that no one holding the Catholic view could participate in the work of any clinic where such teaching was given, and a number of valuable officers of all grades would be lost to public life. Much more important would be the effect on the voluntary side of the Maternity and Child Welfare Movement, which blazed the trail in the first decade of the century and is still its main-stay in many parts of the country. Of the 2112 clinics at work in 1925, 756 were voluntary, and in the maintenance and running of the latter religious individuals and organisations play a prominent part. Not least of the triumphs of the Maternity and Child Welfare Movement has been its unique influence in drawing together women of all classes and creeds in the service of the Baby. With the coming of Birth Control all this happy co-operation will be at once a thing of the past and the movement would be split from top to bottom. The

cleavage would necessarily extend beyond the Managing Committee, the staff and the subscribers, and would affect the patients and the reputation of the clinic. Clergy of the Catholic and High Anglican communions, and possibly others, would feel obliged to deter women in their spiritual charge from attending clinics where advice as to contraceptives might be proffered.

The ethical side of Birth Control would inevitably be forced on the attention of Local Authorities from yet another aspect, for a municipality is bound to consider the effect on public morals of its actions, even in its instructions to its Public Health Department. It is proper to recall here that contraceptives are *in fact* used more for extra-marital than marital relationships. Only the very simple imagine that the great commercial interests in contraceptive articles have been built up on the demands of married life. The sinister association of such goods with erotic literature, abortifacient drugs and abortion-mongering (of which Mrs. Stopes has been complaining bitterly in the pages of *John Bull*) tells its own tale. There is, moreover, the fact that the recent spread in the knowledge of contraceptives has been associated in many quarters with a striking diminution in the illegitimate birth-rate, which there is no reason to suspect

is due to a diminution of immorality. In Birmingham the illegitimate [1] births were 858 in 1919, 894 in 1920, 823 in 1921, 719 in 1922, 610 in 1923 and 583 in 1924. In Vienna, where Birth Control is known to be much practised, the illegitimate births are obviously more controlled than the legitimate.

Rate per 1000.	1884.	1902.	1912.	1921.
Legitimate . .	214	186	112	98
Illegitimate . .	84	54	32	15

It is said that the teaching of contraception at municipal clinics will destroy the unsavoury atmosphere with which it is admittedly surrounded and will make Birth Control respectable. It is not easy to see why, if the married practise Birth Control more, the unmarried should practise it less. Rather would it appear that by the seal of official approval, lingering scruples against mutilated intercourse will be diminished. Already it is notorious that many women, who would otherwise have remained continent, are led into illicit unions by the knowledge—or the hope—that no child will result. A community may well pause before it scatters more widely the knowledge of a practice that has already proved itself a two-edged sword.

[1] Annual Report of Medical Officer, 1924.

As a compensation for the hornet's nest of troubles which the approval of Birth Control would bring on a municipality, we are promised two definite advantages to the Public Health : (1) the improved control of venereal disease, (2) diminution of abortions.

(1) The argument from venereal disease is repeatedly and strongly urged by the Neo-Malthusians.[1] "When it is known to the medical officer at a Health Centre," said Mr. Bertrand Russell, "that a woman has had a child suffering from venereal disease, and there is reason to think that, unless there is an interval for treatment, the next child will be similarly afflicted, it is difficult to see how any humane person can say that the Health Authorities must do nothing to prevent the birth of another unfortunate." "The wife," points out Dr. C. V. Drysdale, "can feel relatively secure against the danger of infection from a husband who has contracted venereal disease through delayed marriage or from succumbing to other temptations through the waning of her beauty or an uncomfortable home."[2] At this point a Medical Officer of Health is surely entitled to protest that he is neither a veterinary surgeon in charge of beasts of the field, nor even the witch doctor

[1] *Ethics of Birth Control*, p. 120.
[2] *The Neo-Malthusian Ideal*, 1921, p. 5.

to a savage tribe. He is entitled to assume that his population is composed of civilised beings possessing the use of reason and a sense of human dignity. That a wife should deliberately permit intercourse with a diseased husband is a loathsome act at which a doctor should decline to connive. The action of both parties is as unnecessary as it is vile. For the V.D. patient British Local Authorities have provided a complete system of free treatment at over 190 clinics, accessible to all. Only by wilful negligence can an infected man or woman (once aware of his or her condition) remain in an infectious state for any length of time, or bear diseased offspring. If during the infectious stage a man insists on having relations with his wife, the Church, the law and public opinion will support her if she leaves him and will compel him to maintain her and her children.

A scientific fact apparently unknown to the supporters of Birth Control is that *no known contraceptive will make intercourse with a venereally infected person really safe,* especially for the woman. Certain well-known precautions will *diminish* a man's risk of contracting disease, but few doctors would consider that this safeguard would justify deliberate exposure to *known* infection. The woman is practically impossible to protect

effectively. The promised advantages of contraceptives to the V.D. officer are thus illusory, and can only interfere with his hard but not hopeless task of enjoining complete continence during treatment.

(2) The problem of *abortions* is one of the most difficult with which an M.O.H. is confronted. The facts are naturally extremely difficult to discover, as the parties most concerned have the best possible reasons for concealment. It is generally admitted that the crime is sufficiently general to constitute one of the chief reasons why public health measures have not had the same effect on the maternal as on the infantile death-rate. Dame Janet Campbell, in her Memorandum on Maternal Mortality (1924), gives reason to think that artificial abortion is a cause for the specially high maternal death-rate in the industrial (especially the textile) areas, and suspects that deaths from " puerperal sepsis " are often due to this cause.

The advocates of Birth Control claim that it is a cure, indeed the only cure, for the practice of abortion, and that unhappy mothers are driven into the crime as they are either too ignorant or too poor to obtain contraceptives. It seems very doubtful whether ignorance or poverty has much to do with the matter. To take five towns where

the maternal death-rate is either rising or stationary and abortion is suspected to be rife—*i.e.* Halifax, Blackpool, Bury, Barnsley, Bradford—the inhabitants are not conspicuously ignorant nor poverty-stricken. It is ludicrous to suppose that any substantial proportion of the women of, say, Bradford, where twenty-five out of fifty-one maternal deaths were due to abortion, are unaware of the possibilities of contraception. As Mrs. Harrison Bell told the Labour Party Conference at Liverpool,[1] "Many of them knew perfectly well that it was quite easy to obtain the information, indeed, speaking as a dweller in a working-class neighbourhood, it was very difficult to avoid the information that was thrust into people's doors." As for the plea that abortion results from "inability to pay for advice," it must be remembered that the smallest fee charged by an abortionist is higher than the five shillings which would purchase instruction from a doctor.

A recognised authority on French social conditions, M. Paul Bureau,[2] has declared that the practice of abortion in France is actually increasing *pari passu* with the increased use of contraceptives in recent years. There is considerable evidence that this has

[1] *Labour Party Conference Report*, 1925, p. 192.
[2] *L'Indiscipline des Mœurs.*

been the case in Soviet Russia, and, if true, the fact would be in no way surprising. Where the current philosophy of life teaches men and women that the coming of a child is primarily a question of "desire," there is only a short step between preventing conception and destroying an unwanted product of conception.

The final issue of the struggle for the State recognition of Birth Control will depend, however, not on a nice balancing of advantages and disadvantages, but on the philosophy accepted by the people of this country. The demand for Birth Control is begotten of despair in God and man, it will grow as belief in religion and the dignity of man fails, and it can only be countered by a re-affirmation of trust in both. Why should we despair? The community has hardly made a beginning in using the great resources of science and education to lighten the physical burden of maternity, to teach higher ideals of self-discipline in marriage and greater consideration for the wife, and to provide a decent environment for the little child. These are hard tasks for any State, and they can never be achieved by men having no God but "Humanity," and a profound contempt for that, but only by men with a firm grip on first principles. It can be done if the nation makes it the primary

test of a just distribution of wealth that every man shall be able to rear his children in decent comfort. It can be done if the nation refuses to regard the children of the poor as the "unfit," but rather as precious stuff of which happy homes and great empires are built. It can be done if women, citizens now and rulers as never before of their own destiny, will remember that the curse of barrenness is a worse thing than the curse of Eve. A community so inspired will realise that the State and its members are better employed in making the world fit for children, than in keeping children out of the world.

Note on the Legal Position of Contraception in Europe and America

(Extracted from the *International Year Book of Child Care and Protection.*)

In *Belgium* (1923) and *France* (1920) heavy penalties are imposed on persons advocating the evasion of pregnancy, or helping to spread ideas inimical to the increase of population, or selling, or distributing in any way any article with this end in view.

Germany has no specific law dealing with the subject, but contraceptive devices have been penalised under a code which forbids the

display or advertisement of articles for "unchaste and lascivious purposes."

In *Sweden* and certain cantons of Switzerland it is an offence to expose for sale or distribute any articles having for their purpose the limitation of families.

Norway has no specific legislation, but Birth Control propaganda is generally held to be prohibited under the statutes dealing with indecent publications and articles.

In *America* it is an offence against the Federal Obscenity laws.

In *Austria* and *Hungary* the matter is not touched by legislation, but Birth Control has increased much in popularity during recent years.

In *Holland* private initiative started the first Birth Control clinic in 1885. There are now clinics in all the large towns, organised by a Neo-Malthusian League which was granted a Royal Charter of Public Utility in 1895.

Russia has provided instruction in Birth Control by the staff of the Commissariat of Health at public clinics.

In *Italy*, *Poland* and *Spain* there appears to be no legislation touching Birth Control.

VII

SOME PUBLIC HEALTH ASPECTS OF "BIRTH CONTROL"

By Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P.

The object of preventive medicine and of its application in public health administration is to prevent disease and to enhance the standard of health of every member of the community; and in the attainment of this end, the maintenance of the integrity of the family is supremely important. This being so, the decrease in the average size of families is perhaps the most portentous feature of social life during the last forty years. How does this affect the common health? Are we to regard the slackening rate of natural increase of the population, which characterises most Western communities, and the already stationary or even declining population of France, as phenomena which will be associated with a higher standard of individual health and welfare than has hitherto been attained, or must we rather think of them as portents of transfer of world power to the yellow and black races of mankind?

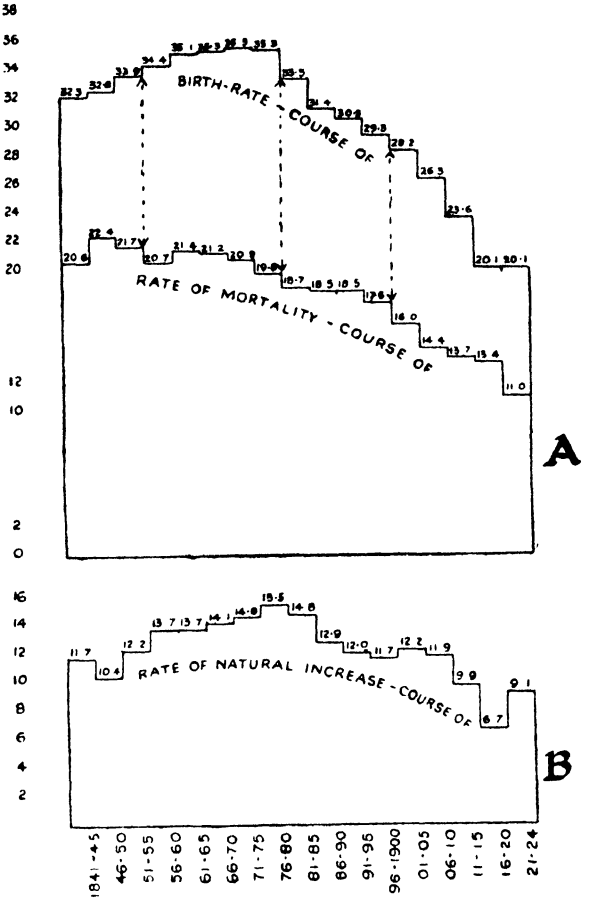


FIG. 1.

England and Wales.—A. Average Annual Birth-rates and Death-rates during five or four yearly periods, 1841–45 to 1921–24. B. The Rate of Natural Increase is shown by the distance between the two lines in A. It is seen better in B.

The course of events as regards this country can be shortly stated and is shown graphically in Fig. 1; and we know that in Western Europe, in America and in Australia similar changes are occurring, only differing in the date of their beginning, and in the extent to which the process has advanced.

In England and Wales the registered annual birth-rate in 1841–5 averaged 32·3 per 1000 of population, increasing to 35·5 in 1871–5, when birth registration had become complete. In 1921–4 the birth-rate was only 20·1 per 1000. In 1841–5 the death-rate was 20·6, and in 1846–50 it was 22·4 per 1000, and only 11·0 in 1921–4; while the rate of natural increase by excess of births over deaths declined from 11·7 per 1000 in the earliest period to 9·6 per 1000 in the after-war period, 1921–4.

In Fig. 1 it can be seen that in 1841–5 the natural increase was kept down by excessive mortality, that it reached its maximum between 1860 and 1885, after which the decline in the birth-rate became greater even than the phenomenal fall in the death-rate, and the rate of natural increase steadily declined, as shown in the lower diagram of Fig. 1. Omitting war years and after-war years, the rate of natural increase in recent years has been not far from one per cent. per annum.

This would appear to be a not unsatisfactory rate of increase for a small country like England and Wales, which cannot grow all its needed food within its own borders, and which is dependent for its maintenance on a large export trade, under conditions which are rapidly becoming more and more stringent. But the position demands to be examined prospectively as well as retrospectively. There are natural limitations to reduction of the death-rate. If every death before the age of seventy were avoided, death is inevitable at higher ages, and when we speak of a lowered we really mean a postponed death-rate. The limitations of life-saving have not yet been reached, and vast gains are still attainable. It will probably always remain true that at ages under five as well as at ages over fifty-five the death-rate will be higher than at intermediate ages; and it follows that with a low and declining birth-rate, the proportion of the population living at ages of low mortality will necessarily decrease; and ere long the fewer deaths in childhood will fail to compensate for the increased number of deaths at ages over fifty-five. When this comes, the general death-rate for all ages in the aggregate must increase. Even the abolition of two of the greatest enemies of adult life, tuberculosis and cancer, would merely

postpone this inevitable result of a decreasing birth-rate continued during several decennial periods.

Incidentally our becoming a gradually older population has important associated social results. The number of children in the population will decrease, implying a saving in education rates, but the cost of old age pensions will become much higher. In 1941 it may be expected that 9 per cent. of the population of Great Britain will be over sixty-five as compared with only 5 per cent. in 1911. This alteration of age distribution of the population has important bearing on the rate of future increase of the population. In this country the population is likely to cease to increase within the next twenty years or so, assuming the present trend of events to continue. In a recent contribution to the *Journal of the American Statistical Association* (September 1925), Louis I. Dublin and A. J. Lotka have examined the same problem as affecting the American population. With restriction of immigration the rate of natural increase of the American population possesses increased national importance; and it is shown that when allowance is made for the decline in the birth-rate and its effect on the age-distribution of the population, the rate of increase will slacken to a remarkable

extent. Dr. Dublin concludes that America is "rapidly approaching a condition of a stationary population."

It should be added that the course of events in England is not ascribable to what the mother in *Punch* described as the "sad heresy of celibacy." The marriage-rate per 1000 of population was 16·8 in 1861–5, and again 16·8 in 1916–20. Nor does the postponement of marriage furnish an explanation, the average age of spinster brides having been 25·14 years in 1896 and 25·54 years in 1920.

It would appear, then, that we are not threatened with an avalanche of children, but ere long may find it necessary—as it is now indeed—to represent to socially competent parents of all social classes that it is their social duty to contribute to the commonwealth not fewer than four children. Into the effect of our decreasing birth-rate on the history of the world I cannot enter in this article, but I may summarise the position in the words of my annual report as Medical Officer to the Local Government Board (1917–18, p. x):

"There are severe limitations to further reductions of the national death-rate, though these limitations are still remote. A large portion of the deaths in childhood, in adolescence, and in adult life, at least up to the end

of the sixth decade of life, are still preventable. . . . It will be recognised, however, that a life saved is but a death postponed, implying a happy transfer to old age of the universal lot of man, when many added years of happiness and usefulness have been secured. If the recruiting of our population by births fails, the possibilities of compensating for this by a lowered death-rate are limited by natural laws, and the future must be regarded with some apprehension. A stagnant population —if we approach this state in the next twenty years—will have momentous effect in this country, and will imply also the possible failure to populate Greater Britain with a race having the ideals of our own civilisation."

From what has been written it will be clear that the problem of birth control—more correctly of conception control—is a part of the larger problem of population, which has occupied and divided economists and sociologists from the time of Malthus onwards. In the light of the historical course of our national birth-rate and death-rate, there can be no reasonable doubt that we are approaching the position of having a stationary population. Nor is there any reason to doubt, assuming the continuance of the new laws against immigration and of the present trend of birth-rate and death-rate, that in the United States a similar position will be

reached, perhaps somewhat later than in England. Both countries will then have an older population, with a much higher proportion than now of dependents, that is of persons above the age when personal contribution to society exceeds cost of personal maintenance. This may be taken approximately as from twenty to sixty years of age.

Can the change thus forecasted be prevented from proceeding further, and English-speaking communities be spared the fate of France, in which, apart from a large amount of immigration, the population is declining, because births fail to equal deaths in number?

By optimist advocates of birth control we are assured that the instinct of paternity, and still more of maternity, which is one of the strongest in nature, will always suffice to maintain our numbers. We are asked also to count on patriotism, as adequate to furnish the quota of an average of at least four infants for each marriage. Personally, I doubt whether this will be secured, assuming that present motives for small families and general views concerning them persist, and that knowledge of methods of contraception and means for practising them become even more widespread than at present, which appears highly probable.

History shows that in times of war parents

are willing to sacrifice their children, and the children themselves are willing to be sacrificed, on the altar of patriotism; but it is a different story when, especially in well-to-do and professional families, it is a question of education of several boys and girls instead of one, of sacrificing social life and modern luxuries, or when it becomes a choice between a motor-car and an infant, with a simpler standard of comfort. The motives of the family circle are competent in the multitude of families to secure the triumph of the domestic over the national unit.

It is assumed above that contraceptive practices are the cause of the reduction of birth-rate which has occurred in so many nations, and one can only mention in passing the somewhat differing conclusions of authoritative statisticians like Mr. Udny Yule, F.R.S., and Dr. J. Brownlee. Mr. Yule maintains quite accurately that contraceptive measures are a means, not a cause, and that some economic nexus, of uncertain nature, is concerned. It does not appear, however, that the steady progress of decline in the birth-rate has shown any recognisable correspondence with measurable economic factors, and the one outstanding fact is the association of increasing knowledge of contraceptives with decreasing size of families. Dr. J. Brownlee, as also Dr.

A. K. Chalmers, advocates the view that there have been past cycles of oscillation in the birth-rate, which are an expression of race physiology. Authoritative figures, free from fallacy, do not go far enough back to throw adequate light on this hypothesis; and it can scarcely be reconciled with the large contemporaneous variations in the birth-rate in different communities and in different sections of the same community.

There is, in my opinion, no doubt that, for good or ill, the reduction in fertility of most Western populations is due predominantly to measures taken to avoid conception, and that, unless or until new motives or motives now not generally influencing life come into general operation, we shall see one-child and two-children families becoming the rule rather than the exception, and perhaps especially so in English-speaking countries and in Germany, as well as in France.

A common argument in favour of teaching the use of contraceptives at clinics for wage-earning people and elsewhere is that the average woman is exhausted or worn out by having a large family. There is little or no valid evidence to this effect, though it is easy to quote " hard cases " in which, on account of ill-health or the fear of inheritance of undesirable qualities, all will agree that con-

ception should be prevented. All obstacles to the receipt of adequate and adequately responsible advice in such cases should be removed in the interest of the common health. But these cases are exceptional and call for special individual treatment, rather than for the present raging and undiscriminating publicity, which is responsible for widespread evil.

The normal intervals of childbearing, in the absence of all artificial preventives, are two years or over. This is clearly shown by the national experience of Scotland in its first year of registration, 1855, when a statement of the order and sequence of birth was required. This was subsequently omitted, and unfortunately has never been required in England. (For particulars see the author's *Elements of Vital Statistics*, p. 68.) The more recent figures for New South Wales are given in comparison.

Ages :	15–19.	20–24.	25–29.	30–34.	35–39.	40–44.
Number of women who had children in one year to every 100 wives of the same age :						
A. Scotland.	51·1	42·7	36·6	30·2	24·2	11·3
B. New South Wales.	56·3	39·7	29·9	22·7	17·3	8·8

These average results, which embody extremes above and below the two to two and a half or three-yearly intervals of child-

bearing may be compared with some recent figures published by Dr. Katharine Gamgee (*Public Health,* October 1925), which showed that in Hull in 350 big families of the working classes with families of over five the interval between child-bearing was two years and two months, and in a corresponding series of 150 small families was two years.

Dr. Stevenson's figures have shown that in this country the reduction in the birth-rate has not been equally distributed. Some years ago it was stated by Professor K. Pearson that 25 per cent. of one generation produces 50 per cent. of the next, the largest families occurring in the most adverse social circumstances. Dr. Stevenson's " Fertility Report " showed, however, that when the most fertile part of the population was graded by occupation, the most fertile 25 per cent. of the population produced not 50 per cent. but 31·4 per cent. of the children born, and 30·5 per cent. of the children surviving to marriages where the wife was under forty-five years old at the census of 1911. The most fertile 25 per cent. included unskilled and agricultural labourers, miners and a number of skilled trades, especially in metals. It is evident, therefore, that the unduly pessimistic conclusions as to the present *differential birth-rate* need to be modified.

The instances of very small families in special groups are, none the less, striking. Thus Professor Cattell (quoted by Dr. Louis I. Dublin), in his study of 643 American men of science, showed that the families from which they came had on an average 4·7 children, while those scientific men who were married and whose families were complete had on an average only 2·3 children, these figures including all the children born. The number of children born to married graduates in Harvard and Yale Universities was 3·25 in 1851–60 and a little over 2 in 1881–90. In the experience of women graduates of four American colleges (Smith, Vassar, Bryn Mawr and Holyoke) the average number of children per married woman from each college varied from 1·3 to 1·8.

It is scarcely surprising, when the preceding and similar figures are contrasted with the high birth-rates in certain circles, that the cry of racial deterioration has been raised. It has even found expression in the pulpit. Thus Dr. Barnes, the Bishop of Birmingham, in a sermon to a Hygienic Congress on 31st May, 1925, said :

" Human welfare is now menaced by human fecundity. Civilisation is in danger of being choked by its waste products. The growth of our population has been such that vast

masses are deprived of the uncramped freedom necessary to a healthy existence. . . . The question arises as to whether the social conscience is not now conniving at racial degeneration. . . . By medicine and hygiene Nature's destructive forces have been conquered. But the victory will be disastrous to human welfare unless a desire for many children, which is natural and until recently was laudable, is held in check."

The terse statement just quoted brings before us the difficult problem of social distribution of inherent qualities. Are we to believe that among the poorest classes, the unskilled agricultural and other labourers, among the artisans who have not yet learnt or who do not desire to limit their families, and generally in all the families in which the number of children is uncontrolled by artificial measures, there is an excessive proportion of children with undesirable or inferior qualities, either mental or physical? There are many such in all social strata, though happily the evidence points to the conclusion that in every station of life normality of inheritance is the rule. Notwithstanding many statistical attempts, it has not been shown indubitably that the strictly inherent qualities of any large social class or occupation are superior to those of any other large social class. And

if this be so, there is no adequate justification for the suggestion that the biologically unfit are now adding to the adult population to a greater extent than in the past, as compared with the biologically fit.

The difficulty with all past investigations has been the impracticability of distinguishing between inherent or biological unfitness, and unfitness acquired as the result of social and economic evils. Many blunders have been made, as, for instance, in not distinguishing between the effects of congenital syphilis (an acquired infection) and of true inheritance of mental defect or abnormality of special senses. It is now being increasingly recognised that ante-natal infection or toxic poisoning, and defects of environment and food of the expectant mother, are responsible for much of what was formerly regarded as the result of heredity. Apart from hœmophilia and certain other relatively rare diseases, we have but little certain knowledge as to the relative importance of heredity and environment, of constitution and conditions, on a child's health.

The case of feeble-mindedness may possibly be quoted as an important exception to this statement. It may be so, but we are strikingly deficient in accurate knowledge as to when feeble-mindedness is really inherited and when casual. There appears to be no sure

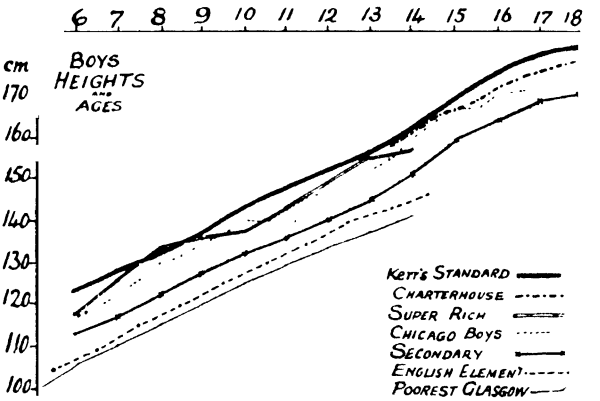
criterion for distinguishing the one from the other; but we know that among other causes this condition may result from injury at birth and from disease arising after birth. Even assuming that the majority of cases of mental defect result from inheritance, immediate or more remote, the number of defective children that have actually defective parents is but a small proportion of the total cases; and it follows that the prevention of conception by such defective persons will have a relatively small, if not insignificant, effect in diminishing the number of defectives a generation hence.

Our outlook on the relative rôle of inheritance and environment in the development of man has been greatly modified during the last ten years as the result of experiments on animals, and especially of the experiments of Morgan and his associates on Drosophila (the sugar fly). The recent experimental observations, even if they do not carry us further, can be utilised at least to suggest the need for caution in believing that man is so completely dependent on heredity for his characteristics as we are often urged to believe. Supernumerary legs are produced in flies when the flies are bred in moist air, but the abnormality ceases to be inherited when the flies are hatched and live under dry conditions. Thus, as Professor H. S. Jennings (*Pro-*

metheus, 1926) says: "Clearly it is not necessary to have a characteristic merely because one 'inherits' it. Or, more properly, characteristics are not inherited at all." So also the salamander lives generation after generation in water, and has gills. But kept in the Zoological Gardens in Paris under altered conditions the gills disappear and the salamander becomes an air-breathing animal, and its progeny continue, when living in the altered conditions, to inherit the new land characters. The extent to which such experimental observations as these are applicable to man is doubtful; but, nevertheless, they throw doubt on the too-confident statements often made as to the necessarily hereditable character of various physical and mental defects. In each generation, when male and female mate, there is a combination of unnumbered characteristics, whether these be carried by chromosomes or otherwise, and we have no knowledge which justifies us in dogmatising on the multitudinous variations in results, physical and mental, which may follow.

There is, however, abundant guidance for social action when individual characteristics, defects and diseases are considered socially. Thus we know that feeble-minded children are not likely to become self-supporting, and that it is socially important to prevent them

from becoming parents. The feeble-minded even in minor degrees are most inefficient parents, and the cause of further injury to



(i) Poorest Glasgow schools (about one-fourth of the Glasgow schools in Mackenzie's inquiry: *Biometrika*, 1914, Vol. X).

(ii) English Elementary schools, average experience of about a quarter million children, collated by Drs. Tuxford and Glegg (*B.M.J.*, June 1911).

(iii) English and American Secondary schools, collated by Dr. W. Stephenson (*Lancet*, 1888, ii, 560).

(iv) Middle-class schools in Chicago and New York, from Baldwin T. Bird's measurements.

(v) Super-rich class in Chicago (all go to schools in motor-cars): Dr. Josephine Young.

(vi) Charterhouse boys as given by Pearson (*Monograph on Temperature*, etc., pp. 62 and 63).

(vii) Standard worked out by Dr. Kerr, which is probably within a little of the possible attainment of height of Anglo-Saxons under good conditions.

their progeny. We know, again, that children brought up in poverty-stricken homes, in circumstances of social overcrowding of bedrooms, and especially the children of alcoholic

parents, are likely to be less healthy and become relatively inefficient adults than others. The effect on stature of imperfect nutrition and the numerous other conditions which prevail among a large section of the population can be seen in Fig. 2, for which I am indebted to Dr. James Kerr.

There is a definitely lower average height in children of lower and less favourable social conditions; and there is little doubt that this difference is associated with a less favourable general health and proneness to disease which roughly corresponds with the somewhat stunted growth.

The remedies for these differences are not selective breeding from families in which the highest physical conditions are found. This might, on purely physiological grounds, be urged if the physical differences were ascribable or chiefly ascribable to genetic causes. As matters now stand the only certain line of progress—except in so far as we can prevent the production of children by the definitely feeble-minded, by drunkards, and others demonstrated to be socially incompetent in some incurable respect—consists in an improved environment and a continuance and extension of sanitation and public health and social reforms, which have already had such magnificent triumphs.

VIII

THE VIEWS OF A MEDICAL OFFICER OF HEALTH

By Sir John Robertson, C.M.G., M.D.

It is probably true to say that every intelligent married couple who have reared a family have, at one time or another, exercised to a greater or less extent some control over the number of pregnancies and the intervals between them, in order that the mother of the children shall not be unduly taxed. In this sense Birth Control is somewhat general among married people, and probably has been practised since the earliest times. Among many uncivilised races there are customs which in some cases amount to actual rules of life and which regulate the spacing of the intervals between the children in a family. In many of the Central African tribes and in some of the North Australian tribes these conditions exist.

On the other hand, there are certain groups of people, the careless and thriftless classes, who have never exercised any voluntary control, and the whole question of Birth Control is being advocated largely on their

behalf. In most couples in this group of cases Nature has stepped in and spaced the intervals between members of the family to such an extent that there is not an excessive number of children.

In view of the effectiveness of natural means, it is extremely doubtful whether, except on medical grounds, the advocacy of artificial means of Birth Control is advisable, particularly as I hope to show later that such methods are capable of damaging the users in some cases, but more especially as the general use of contraceptives is at the present time leading to promiscuity among the unmarried and the married.

When the birth-rate is being considered, many people point to Birth Control as the main cause of the reduction in the birth-rate, but, undoubtedly, there are many others, later marriages, extra nutrition and an unexplained levelling of the rate throughout the year when formerly there were peaks.

Nature herself has provided a wonderful way of regulating the rate of the family. The childbearing period of a woman is a limited one, and the longer marriage is delayed the shorter is this period. Usually pregnancy does not take place during lactation, so that the interval between the birth of children

frequently approximates to eighteen months or two years in the case of mothers who nurse their babies.

A good deal of misapprehension exists as to the number of excessively large families among the poor. Quite recently, for an entirely different purpose, it was necessary to obtain the precise age of each member of the family in a large number of houses occupied by what would commonly be called slum dwellers, and a similarly large number of houses occupied by the skilled artisan class. The average interval between the children now living in the slum area was 3·2 years, and in the better artisan area, 3·3 years. In the slum area the shortest interval between two children was eleven months, the longest interval was twelve years, while in the skilled artisan area the shortest interval was eleven months and the longest twenty-two years. That is to say, the difference in town areas between these groups is a comparatively small one in the matter of intervals between the ages of children in a family.

A great deal of fear has been expressed about the over-population of England and Wales. The following figures which show the rate of increase of population as ascertained by the Registrar-General at each of the last

six Censuses indicate that the percentage increase is declining.

1871	over	1861	13·21	percentage increase.
1881	,,	1871	14·36	,, ,,
1891	,,	1881	11·65	,, ,,
1901	,,	1891	12·17	,, ,,
1911	,,	1901	10·89	,, ,,
1921	,,	1911	4·93	,, ,,

In the last intercensal period the increase in rural areas was 4·26 per cent. and in the large towns it was 5·57 per cent.

At the Census of 1911 the Registrar-General ascertained the size of each family and found that the average for each couple was five (parents and children).

A more useful method of stating the size of the family is shown below, where the number

AVERAGE NUMBER OF CHILDREN (LIVING CHILDREN AND STEP-CHILDREN UNDER SIXTEEN) AT AGE OF PARENTS (CENSUS 1911).

Age.	Married Men.	Married Women.
20	0·59 children	0·59 children
25	0·77 ,,	1·03 ,,
30	1·33 ,,	1·64 ,,
35	1·91 ,,	2·19 ,,
40	2·15 ,,	2·19 ,,
45	1·94 ,,	1·77 ,,

N.B.—These figures embrace all married men and women of the ages stated. Some of them had no children, while at later ages some had large families. The figures give the average per married man or woman.

of children, that is living children and step-children under the age of sixteen, were ascertained for each parent at various ages.

The table on p. 154 indicates that at the age, say, of forty, the average number of children or step-children dependent on their parents was, for married women, 2·19. The average family in the country is, therefore, not exceptionally large, not nearly so large as most people imagine. It must be borne in mind that quite a considerable portion of married couples in this country have no children or have only one or two children, and it is this which brings down the average.

A woman who married at twenty-five years of age and had a child every two years would have had seven children at the age of forty, but the Registrar-General found in fact that the number which women of that age have on an average is only 2·19, that is to say, she has on this basis less than one-third of her reasonably possible quota.

An inquiry has recently been made into the question of overcrowding in houses in two areas in the city of Birmingham, one a slum area of 500 houses, and the other an area occupied by artisan classes, and it was found that the size of the families was as follows :

	455 Families in Slum area. Parents of all ages.	457 Families in Artisan area. Parents of all ages.
1 child . . .	94	131
2 children . .	95	108
3 ,, . .	81	92
4 ,, . .	83	69
5 ,, . .	44	28
6 ,, . .	32	15
7 ,, . .	13	8
8 ,, . .	7	2
9 ,, . .	4	2
10 ,, and over .	2	2

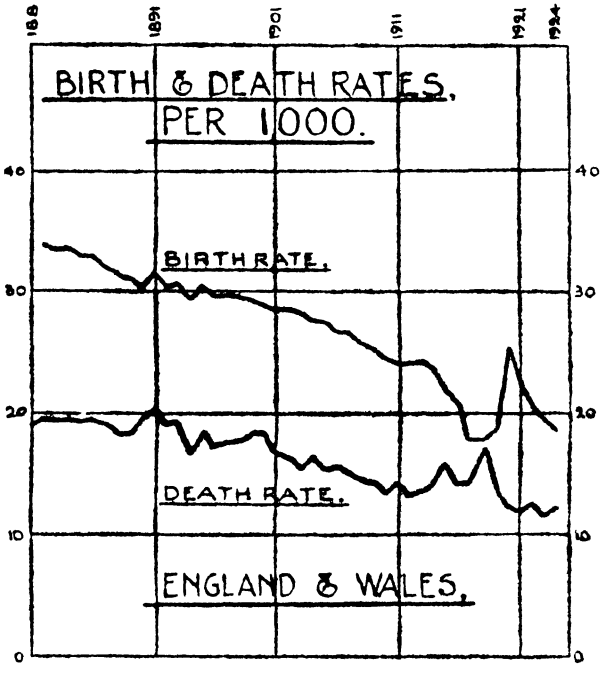
This inquiry does not, of course, take into consideration the age of the parents. Many of the families were those of young parents who will later increase their families.

There are many other statistical facts which should be kept in mind in considering the question of Birth Control. Among these is the course of the birth-rate. The diagram following shows both death and birth rates for England and Wales since 1881.

We have now arrived at a point where there is little chance of reducing the death-rate below what it now stands at, indeed there may be a perfectly definite increase in the death-rate without this increase meaning that the health of the community is affected. This is due to the altered age constitution of the population.

While the death-rate cannot be affected to any great extent in the future, there is no

limitation to the rate of decline in the birth-rate. The result of any further large decline in the birth-rate will obviously mean a decrease in the population of this country.



Birth-Rates in Towns and Rural Districts

The birth-rates in certain towns and rural districts are shown in the following tables :

Birth-Rates in Towns

	1881	1891	1901	1911	1921	1924	Percent. of reduction in 44 years.
London . .	34·7	31·8	29·0	24·8	22·3	17·6	49
Glasgow .	37·4	35·0	31·6	27·7	29·6	22·8	39
Birmingham .	37·2	34·2	32·1	28·1	24·4	18·4	51
Liverpool .	37·6	34·6	32·1	30·2	27·4	22·8	39
Manchester .	36·9	34·1	29·1	26·2	24·8	18·2	51
Leeds . .	36·8	34·1	30·0	23·8	22·8	17·3	53
Sheffield .	38·0	36·6	33·0	27·8	24·4	17·4	54
Bradford .	33·0	28·7	23·1	19·0	20·1	15·8	52
Leicester .	38·4	33·9	29·0	22·7	21·7	17·0	56

Birth-Rates in Rural Counties

	Wilts	Somer-set.	Norfolk.	Herts.	West-moreland.
1881	30·7	30·7	31·2	30·7	30·0
1891	27·8	28·8	29·4	27·3	27·5
1901	25·0	23·5	26·3	24·5	22·6
1911	21·4	20·4	22·0	20·7	19·7
1921	19·9	19·4	20·6	18·5	19·1
1924	17·1	16·3	17·6	16·0	17·0
Percentage of reduction in 44 years:					
	44	47	44	48	43

Some unthinking people have advocated a great decline in the population of this country, particularly among the artisan classes. It cannot, however, be too well known that we depend on our manufactured articles for our food supply and that without a large artisan community we could not feed ourselves nor

supply the needs of our vast empire by sending emigrants to refurnish the stocks in these colonies.

The definite reasons given for advocating artificial means of Birth Control among married people come from two classes of the community.

(A) Those who see the misery resulting from a large family in a poverty-stricken household and are anxious to prevent the suffering which all the members experience as the result of the large family, and

(B) Those who advocate that the families of the intelligent classes should be increased, while those of the less intelligent classes should be decreased.

The necessity for limiting the families of those who suffer from disease or deformity is one which probably nobody will object to, and it need not be further discussed, this being a matter of medical importance.

In regard to the first group, everybody has some amount of sympathy with the advocates of Birth-Control in these cases, but for the most part they are people of the thriftless and careless class who take no care of themselves or their families, and would not use any method of Birth Control even if they knew about it.

Where parents are healthy as a general rule the members of a large family usually do exceedingly well for themselves and are a great asset to the nation as well as to their parents. As one of a large family myself, I know what the difficulties are, but to set against this there are enormous advantages in being a member of a large family, advantages which not only benefit the individual children, but, in the case of the working classes, benefit the parents in later life. It is a curious fact that mothers of large families are usually long-lived and outlive their sisters who are barren or who have small families. The mother of a large family is not killed off by reason of her frequent childbearing.

From a large acquaintance with the working classes I have no hesitation in saying that parents do not regret the largeness of the family, and that no sympathy is needed for them except in the case of the thriftless and wastrel class, whose children are very often badly done by.

In the somewhat widespread belief that we should raise our stock from the best brains of the country rather than from the ignorant classes there are many fallacies. Heredity undoubtedly plays an important part in the transmitting of mental and physical characteristics, but this is limited in various ways. It

is probably true to say that among the various classes of society there are equal numbers of defectives in each class. These defectives are not so obvious among the wealthy classes as among the poor. Much nonsense has been talked about the breeding of defectives among the poor. About one-half of the mental deficients in this country are from parents who are not themselves mentally deficient.

If one eliminates the examples of unions of peculiarly brilliant people and considers the problem among the average intelligent people of this world, I have no hesitation in saying that environmental conditions play a much more important part than conditions of heredity, more important because it is more amenable to alteration, and that the fear expressed that we are breeding from an inferior class is entirely fallacious and unjustifiable.

One cannot get away from the fact that in an ordinary community we need a population of men and women of good physique, even if of perhaps lesser mental qualities, to carry on the ordinary work of the community. There is a need for all classes except, perhaps, the defectives, and any attempt, let us say, to sterilise the lower classes would put out of gear our civilisation.

Those married women who are suffering from disease or are deformed are obviously people who should not have families. Two of these groups have come prominently before my notice during the last twenty-five years, the consumptive and the deformed.

It has been my duty in a large number of cases to see that men and women suffering from acute conditions of tuberculosis should avoid having families either on account of the danger to themselves or to their offspring. It is seldom, however, that the warning given has been heeded, notwithstanding the fact that it has been given to husband and wife with a description of the methods of control which might be used if nature alone was not sufficient.

So, too, with the group of women who have a deformed pelvis and can only bear a living child if a Cæsarian operation is performed. It is remarkable that most of these women refuse to allow themselves to be sterilised at the time of the operation, and many of them have three, four or even five children, each at enormous risk to life to both mother and child. Birth Control may quite properly be left for the medical profession to apply to these diseased or deformed people.

It will be gathered from what has been said that I do not think any propaganda is

necessary to teach normal people the methods of ordinary Birth Control, for Nature is sufficient as a teacher.

Within recent years pressure has been put on the Ministry of Health and local sanitary authorities to establish Birth Control clinics in order to give information to every married woman on the subject. Up to the present such general teaching has been disallowed by the Minister of Health.

A certain number of married people have no family. The great majority of these are anxious to have families, and apply for medical advice as to why they are denied the pleasure of having a family.

Another group of married people have one, two or three children and desire to have more, but, for some unexplained reason, they have no more children. These also apply for medical advice.

It is probably true to say that, except in a small minority of cases, every woman desires to be the mother of a family. Indeed it would be unnatural if she did not so desire.

What limits the families of married people?

First, for want of a better word, I would suggest incompatibility as the cause in some instances. Many women do not have children when married to their first apparently healthy husband, while the same women conceive

readily when they are remarried. The reason for this incompatibility is not known.

There are many cases on record where a young widow with a family marries a young widower, also with a family, and where these unions are childless, that is to say, there is incompatibility. Incompatibility also occurs among the lower animals. It is known among owners of stallions and bulls, but to some extent it is due in these cases to over-feeding and lack of healthy exercise.

There appears to be incompatibility at times among most married people. It is frequently found that after the first one or two children are born a considerable interval elapses before the next child is born. This limitation of the family to one or two children occurs without any question of consciously exercised Birth Control.

Second, most women cease childbearing long before the reproductive period ceases, that is to say, that incompatibility is a condition which comes on naturally with nearly every woman, and is by far the most important influence limiting the number of children born.

Third, most women do not conceive during a certain number of days between their menstrual periods, and the knowledge of this is widely taken advantage of by married

people who happen to desire to limit their families without making use of special apparatus. Then there is the menstrual period itself, during which intercourse is objectionable to both parties. As already pointed out, married women who are suckling their babies do not conceive readily, and this is a powerful factor in spacing the intervals between child-bearing.

A good many methods of Birth Control have been made use of throughout the world and much literature exists on the subject. Probably the following brief list indicates the methods most widely used.

FOR THE MAN

(A) *Withdrawal before an emission of semen.*—This is not entirely satisfactory and in many cases is very difficult to time.

(B) *The use of sheaths of silk or rubber.*—This is a very old method. It requires that the rubber sheaths must be available at the proper time. They must, therefore, be kept in readiness. They are made of pure thin rubber, and, unfortunately, this type of rubber perishes very quickly, and, therefore, an old sheath is apt to tear. If it does so, it of course does not perform its function. A very large number of cases occur every year

where married or unmarried women become pregnant when they do not expect pregnancy because a sheath has been used. Within recent years quite a number of young married people in this country and in America, and probably other countries, have made up their minds to have no family for the first few years of married life and have made use of this form of contraception. A great many of these couples have been surprised at pregnancy occurring after the use of one of these sheaths, due, of course, to the bad quality of the sheath used. The sheath has the great disadvantage of preventing sensitiveness, especially if the rubber is thick. Most sheaths are made thin, and there is considerable risk of pregnancy following their use. A few weeks' exposure to light and air are sufficient to destroy the quality of the rubber.

It has been taught that the use of a sheath prevents venereal disease, but, just as in the case of its failure to prevent conception, so, also, many women have contracted venereal disease through defective sheaths. They are not a reliable precaution.

For the Woman

(A) *Washing out after intercourse.*—This is probably the most hygienic method of Birth Control, but it entails certain inconveniences

and certain precautions, otherwise it is liable to be unsuccessful. It is not always easy to have a jug of warm water to hand of the temperature required. The warm water is rendered much more effective if made slightly acid by the use of diluted boric acid or acid sulphate of quinine. A syringe is required holding at least half a pint of water, and the nozzle has to be inserted so that it reaches near the cervix. This method is usually successful if carried out immediately after intercourse, but most women find this method so disagreeable and inconvenient as to abandon it in favour of a more convenient one. The washing-out method has been used largely by prostitutes, because they recognise that in addition to preventing conception it assists in the prevention of venereal disease.

(B) *Sponges.*—Small sponges with a silk thread attached, moistened with water, or, better still, an acid quinine solution. The silk thread is used for the removal of the sponge. The placing of the sponge in position so as to cover the cervix is by no means easy or pleasant for the woman, and in every case after the withdrawal of the sponge a douche should be used.

(C) *Soluble pessaries.*—These are made so that they may be inserted and will dissolve, thereby sterilising the spermatozoids. The

most usual form is that of a pessary of quinine, and, as the epithelial lining of the vagina is absorbent, many cases of quinine poisoning have followed the regular use of these pessaries. Their use should in every case be followed by a douche.

(D) *India-rubber cap pessaries.*—These are india-rubber pessaries designed to fit as a cap over the *cervix uteri*. They are by no means easy to apply, and it is said that many women cannot apply them themselves. Once applied, they are said to be effective. They should be removed and a douche used immediately after intercourse. Gynæcologists say that their continued use gives rise to inflammatory conditions of the cervix and other similar conditions. It is said that they are frequently left in for long periods without removal.

(E) *Paper plugs.*—Fine, bibulous paper is very extensively used by unmarried women in Eastern countries, who plug themselves with this paper and remove it immediately after intercourse and douche themselves. This method is said to be fairly successful.

There are, of course, many other devices on the market, but the above fairly represents the methods generally in use, and it will be gathered that all of these methods are under the disadvantage that unless they are used carefully and proper precautions taken imme-

diately after intercourse, conception is liable to take place or venereal disease to be conveyed. Nearly all the methods require the woman to get up and douche herself at a time when this is frequently inconvenient.

If Birth Control ever became so popular among married people as to reduce the population of England to perhaps something worse than it is in France, a very serious national question will arise, because England is not able to feed herself without the help of a large working-class population, while France could continue to exist without food being imported. A good deal of the past and present anxiety of the French nation is due to the fact that Germany has demonstrated to the world that she can double her population while France remains practically stationary.

However much one may theorise on the question of reducing the population of the country, one cannot neglect the results of the study of the history of the various old nations of the world. In nearly every case there was, from some cause or another, a great reduction in the population and an inability to repair that loss, and then practically an extinction of the nation. There is no doubt but that a prosperous community is an increasing one, and that growth indicates virility and strength.

The Use of Contraceptives by the Community

From the above it will be inferred that, in my opinion, the use of apparatus by married people is unnecessary and, in many cases, harmful. Nature itself, and natural control, proves sufficient, but nothing would have made me take part in this controversy were it not that my attention has been drawn very pointedly to the extensive sale of apparatus and books among unmarried men and women.

This leads to promiscuity and debauch and, to a greater or lesser extent, it ruins the morals of those who indulge in it.

Further, it leads even married men and women into irregular sex relationships and makes for the destruction of family life.

Pamphlets on Birth Control are now sold inside and outside factories both to men and women.

Agents for the sale of contraceptives exist either inside the factory or at the factory door. I have ascertained that three of the largest factories in this City, where women are employed, are regularly visited by a woman who distributes price lists of contraceptives and, when called upon, sells them to the women. I have obtained two perfectly disgraceful pamphlets which are being circulated

and apparently widely read by young unmarried women in factories.

Quite recently an unmarried woman here had to be cared for during her confinement. She was found to be suffering from gonorrhœa and she informed us that she had purchased contraceptives from a woman in the street and that no intercourse had taken place without their use. She was anxious to know why in her case this had failed. The sheaths which she had purchased were old and easily torn.

The use of contraceptives by unmarried people is increasing in Birmingham to a very large extent. This is due to the facility with which contraceptives can be obtained. Many young people who would otherwise have sufficient self-control not to indulge in sexual intercourse do so because they are told that intercourse is safe if the apparatus is used, and many a woman has been deluded by her paramour that everything will be right because he or she uses some variety of contraceptive.

That such articles as sheaths are extensively used can be ascertained by an inspection of the hedgerows and by-ways near the centres of our large populous areas. Some years ago complaint was made of the disgraceful conditions in a quiet back road in the north of Birmingham, and I sent an inspector to report.

His report confirmed the complaints which had been made, and contained evidence that he had counted no less than twenty-three sheaths in the two or three hundred yards of road he had examined.

The wholesale distribution of contraceptives among the unmarried is, I believe, so harmful to the nation that some action should be taken similar to that taken in regard to the sale of remedies for venereal disease by quacks. I would suggest that advertising in one way or another of contraceptives should be prohibited by law. It is doubtful whether the legislature would prohibit the sale of contraceptives by recognised shops, but there is a vast difference between this and the touting by agents among the unmarried of the community.

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